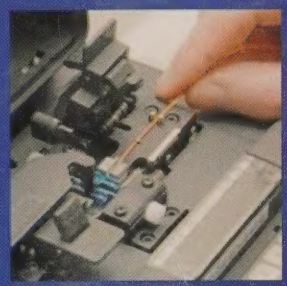
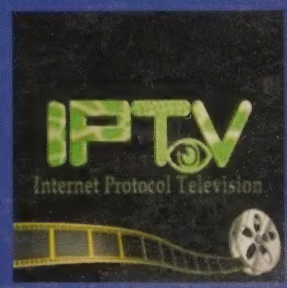
Everything You Need to Build, Install & Maintain A TV Distribution System

• RF Broadband • Fiber Optic • IPTV • Broadcast • Satellite

- Adtec
- Aurora
- Blonder Tongue
- C9 Networks
- Cilutions
- Contemporary Research
- Deviser
- DirecTV
- Drake Digital
- Emcore
- Evertz
- Force
- Middle Atlantic
- Monroe
- Olson Technology
- Pico Digital
- RGB
- Ripley/ Cablematic
- Sencore
- Televes
- Thor Digital
- Titan Photonics
- Toner Cable
- Tote Vision
- Verimatrix
- Viking
- Wellav





toner
cable equipment, inc.

Toll Free 800-523-5947
Worldwide 215-675-2053 **England** (44) 0186 534 1222
www.tonercable.com info@tonercable.com

Thank you for using the newest Toner Cable Equipment, Inc. Catalog.

This catalog has been in process for some time and we have tried to make it as complete and accurate as possible. We may have an error or two and will apologize now. If you do find an error please let us know at info@tonercable.com

Toner Cable Equipment, Inc. was founded in 1971 by Bob Toner to supply the equipment that a Cable TV company used to build their systems.

As the years have gone by there have been quite a few changes both in what we do and what we supply.

In 1978, we started building custom headends for our customers.

In 1979, we started supplying satellite antennas and receivers to cable systems.

In 1985, we introduced the Toner brand of CATV passives.

By 1986, cable systems had expanded to 600 MHz and fiber optics became the method of choice for distribution. We became one of the largest suppliers of electronics for fiber optic distribution.

In 1989, we expanded into the European marked when we invented the Quad tap for cable systems in England.

In 1996, we established our UK company Toner Cable Equipment UK Ltd.

In 1998, we established our Latin American division.

By the year 2005, digital TV was blossoming and we were there with it.

By 2009, we were building digital systems with conditional access for customers and started doing on site installations.

In 2011, we started working in IPTV systems and deploying solutions for IP distribution.

Now we continue to expand the range of equipment we provide and embrace new technologies that allow us to improve the service we offer our customers. Solutions like Zixi that allows packet recovery, better quality video at lower bandwidth.

In 2005, Bob Toner retired from day to day operations and handed the reins to his son BJ Toner. With a great sales team knowledgeable in all aspects of the television communications industry, a great group of support people, and the right products at the right price, we continue to provide the right solutions for our customers worldwide.

Our philosophy of "nothing is so important it cannot be interrupted for a customer" continues today as it did back in 1971.

If for any reason you need to contact me please feel free to do so at 215-675-2053 or e-mail at bj@tonercable.com or on my cell phone 215-801-4506

Thank you for your business and continued support.

Sincerely,
BJ Toner

Just Some Of Our Manufacturers

Digital

Encoders, Modulators, Decoders, Demodulators, Processors, Transcoders, Multiplexers, Streamers, CAS, Receivers, Signage, Servers, CMTS, Miscellaneous

Analog

Modulators, Demodulators, Program Timers, Monitors, Filters, Miscellaneous

IPTV / Data / Ethernet

Settops, Encoders, Transport, Converters, Switches, Connectivity

Antennas / Preamps

Satellite

Antennas, LNBs, Dishes, Feeds, Multiswitches, Amplifiers

Racks / Accessories

Enclosures, Cabinets, Shelves, Blank Panels, Hardware, Cooling, Power

Broadcast

Customer Premise

Settops, Modems, Converters, Cables, Switches, HDMI Extenders

Amplifiers

Cable / Connectors

Splitters / Passives

Splitters, Directional Couplers, Taps, Equalizers, Filters

Fiber Optic

Test Equipment

Digital Meters, Spectrum Analyzers, DVB-T Probe

Tools

Cable Strippers, Crimpers, Cable Mapper/Toner, Pliers, Labelers, Fusion Splicers, Fiber Preparation, Tool Kits

Index

FIELD SERVICES

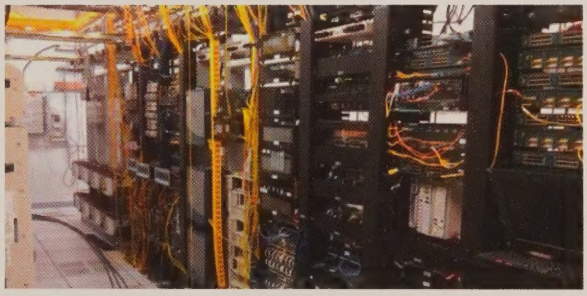
Since 1998 we have been providing customers with the option to have our technicians and engineers install the Headends we built for them.

In 2011 this expanded as we received more and more requests from our customers to assist with on site equipment installations and or system assistance.

From Satellite Antenna installation to setting amplifier levels, we now offer customers a full range of onsite services.

Our field services people have a vast range of technical knowledge and experience that you can easily have help with any type of installation. They have more than 20 years experience in installing Satellite antennas, analog headends, RF distribution systems and off air antennas.

More recently our people have been working with customers on Fiber optic distribution systems, L band Fiber, IPTV networks, and Digital equipment from encoders to transcoders and OTT systems.

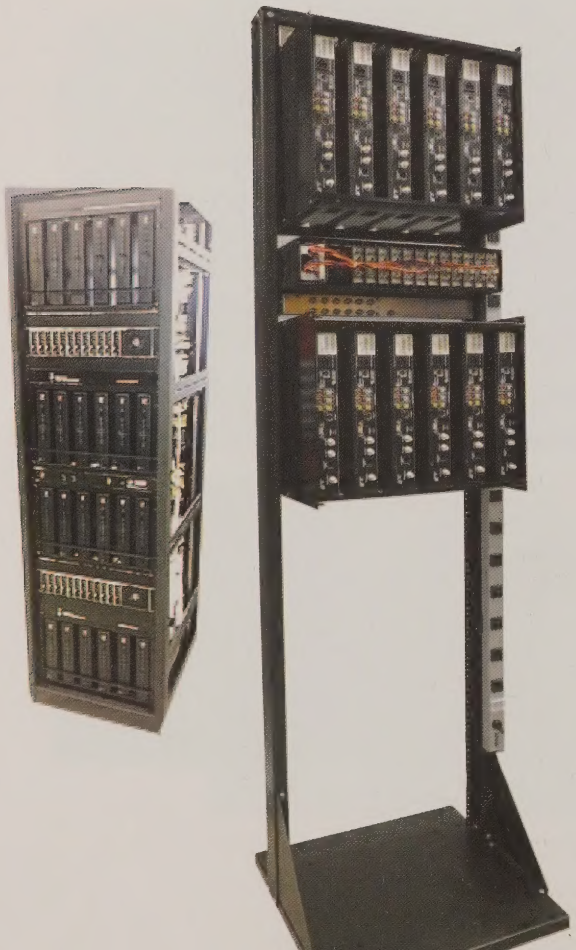


toner
cable equipment, inc.

CUSTOM BUILT HEADENDS

Since 1978 our technicians have been building custom pre packaged headends for our customers worldwide.

We build it right the first time so when you get it, it works the way it is supposed to and your install is so much easier.



From simple analog systems to complex digital systems we have the experience and expertise needed to build you headend today.

We've built hundreds for customers of every sort from the local sports bar around the corner to CBS Television City and a 20,000 subscriber cable system in Tobago.

One rack to 40 racks it really makes no difference. We can do the job for you when you need it and on budget. Call us today to discuss your next project.

CUSTOM BUILT HEADENDS

Toner cable equipment, inc.

Some Features of a Custom Built Headend

- Open relay racks or enclosed cabinets
- Rear equipment support brackets
- Double braid silver center conductor headend cable
- Cable are labeled at both ends
- Color coded cables for function
- Compression type connectors
- As built elevation drawings
- Full documentation manuals
- 100% burn in
- Digital encoder programming
- UPS power supply options
- Ventilation and thermostat options
- Custom wiring and cable lacing
- Spacing between equipment for proper cooling
- Fully tested prior to shipment
- Shipment on air ride moving vans or crated for common carrier shipment
- Installation and Commissioning options
- Ongoing technical support contract options

EN91 MPEG4 HD Ultra Low Delay Encoder

- Automatic SD and HD detection
- AVC 422 Video encoding
- Sixteen (16) channels of phase aligned audio encoding
- Time Code, Captions, Teletext and other VBI support
- Redundant Power Supplies
- Front Panel, Web UI, SNMP control and monitoring
- DVBS/S2 modulation with IF or L-Band
- Modulation modes from QPSK to 32APSK
- ASI and IP Transport (IP supports SMPTE 2022 FEC)

EN91P Low Latency MPEG4 Contribution HD Encoder

- 1080P 50 and 1080P 59.94 fps encoding (3G)
- AVC 4:2:2 Video encoding
- 3G Copper and Fiber SFP video Interfaces, 3G-SDI
- 1, 2, or 3 Frame 1080P, 1080i, 720P or D1 end-to-end latency
- Automatic SD, HD or 3G (Level A or Level B) detection
- Sixteen (16) channels of phase aligned audio encoding
- Time Code, Captions, Teletext and other VBI support
- Redundant power supplies
- Front Panel, Web UI, SNMP control and monitoring
- Multiple Concurrent IP streams w/ FEC
- Simultaneous ASI, IP, and DVBS/S2 transport
- SNMP

EN80/EN-81 DSNG/Contribution Encoder/Modulator

- Encoding via HD/SDSDI with embedded audio and analog composite video flexible latency configuration
- Forward Error Correction (FEC) standard all while concurrently
- transmitting ASI and optional DVBS/S2.
- Advanced VBI Support
- Video/Audio Signal Generation
- Robust/Light Weight design
- SNMP monitoring, front panel LED and LCD visual alarms, web-based statusing and event logging

EN20 HD/SD Dual SDI MPEG2 Encoder/QAM Modulator

- Automatically detects two channels of video and audio
- Can deliver ASI (75 Ohm source per EN500083-9) and GigE (MPEG2 or optional RTP multicast transport egress).
- Compliant with the ATSC A69 Program and System Information Protocol (PSIP).
- Supports closed captioning and Emergency Alert (EAS)
- Integrated front panel keypad and LCD and web page for configuration and monitoring

EN30 HD/SD Dual SDI MPEG2 Encoder/QAM Modulator

- Dual channel encoder
- MPEG2 and MPEG4 AVC 4:2:0 video encoding
- Analog video and audio interfaces
- Concurrent dual AVC or AVC and MPEG2 4:2:0 video encoding
- Eight (8) channels of phase aligned audio encoding per video input
- MPEG 1 layer 2, AAC and Dolby Digital stereo and 5.1 audio encoding
- Optional QAM modulation and RF up-conversion
- Optional DVBS/S2 modulation
- ASI and IP transport (IP supports TCP, UDP, RTP, RMP and SMPTE 2022 FEC)

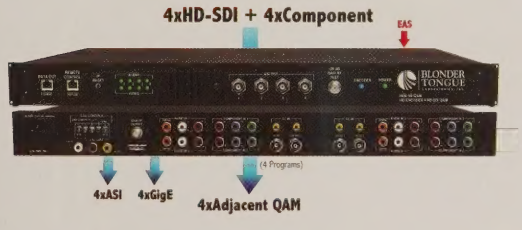
mediaHUB-Pro 02 MPEG2 SD/HD Encoder

- Support for MPEG 2 SD 4:2:0 and 4:2:2 contribution, distribution and studio encoding quality
- Optional upgrade to MPEG 2 HD 4:2:0 encoding with a simple field upgrade
- Automatic SDI detection (HD and SD) of standards and frame rates
- Encode two stereo pairs of MPEG 1 Layer 2 audio, passthrough Dolby E, or Dolby Digital 5.1 with optional dual stream Dolby Digital AC3 audio encoding
- Rapidly and accurately configure mediaHUB-HD Pro via the front panel, on-board web application server or SNMP
- Excellent quality Standard and High Definition video encoding
- Web Browser, front panel LED and LCD visual alarms, SNMP traps and event logging

HDE-8C-QAM MPEG2 HD Encoder

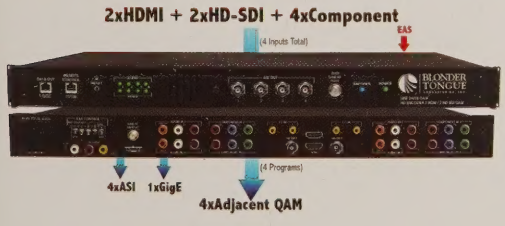
- Accepts up to 8 programs from any of the following inputs: 8xComponent and 8xComposite
- Supports additional 1 spare input to replace the failed input
- Digitizes, MPEG-2 encodes, and multiplexes up to 8 inputs into 4 QAM output channels (2 programs per QAM channel)
- Provides any 1 of the 4 QAM output streams in ASI format
- Compatible with ITU Annex A and B digital QAM formats
- Provides comprehensive GUI-based monitoring and control via standard Web browsers
- Provides a front-panel RF test point (at 20 dB below primary QAM output)
- Equipped with EAS interface (Analog Video + L/R Audio)
- Supports Real-time Dolby® Digital audio encoding
- Supports Closed Captioning EIA-608
- Supports user-defined PSIP configuration

HDE-4S-QAM MPEG2 HD Encoder



- Accepts up to four (4) programs from any of the following inputs: 4xHD-SDI, and 4xComponent
- Simultaneously delivers the following outputs: 4xQAM, 4xGigE, and 4xASI
- Multiplexes up to four (4) input programs in any of the following output combinations:
  - (i) 1:1 (1 program per QAM channel)
  - (ii) 2:1 (2 programs per QAM channel, not exceeding 38.8Mbps)
- Each of the four (4) QAM channels can contain 1 or 2 programs, and be turned on/off individually
- Provides +52 dBmV QAM output level for four (4) combined channels (+60 dBmV for 1 QAM)
- Provides comprehensive GUI-based monitoring and control via standard Web browsers
- Supports Closed Captioning EIA-608 and EIA-708
- Equipped with EAS interface (Analog Video + L/R Audio)
- Supports Real-time Dolby® Digital audio encoding
- Supports user-defined PSIP configuration

HDE-2H/2S-QAM MPEG2 HD Encoder

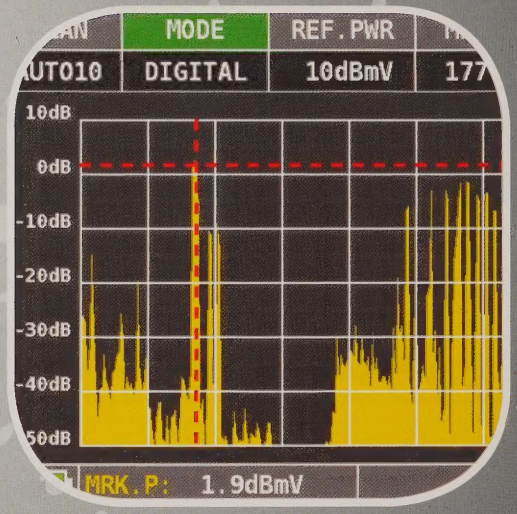


- Accepts up to four (4) programs from any of the following inputs: 2xHDMI (unencrypted), 2xHD-SDI, and 4xComponent
- Simultaneously delivers the following outputs: 4xQAM, 1xGigE, and 4xASI
- Multiplexes up to four (4) input programs in any of the following output combinations:
  - (i) 1:1 (1 program per QAM channel)
  - (ii) 2:1 (2 programs per QAM channel, not exceeding 38.8Mbps)
- Each of the four (4) QAM channels can
  - (i) contain 1 or 2 programs, and
  - (ii) be turned on/off individually
- Provides +52 dBmV QAM output level for four (4) combined channels (+60 dBmV for 1 QAM)
- Provides comprehensive GUI-based monitoring and control via standard Web browsers
- Supports Closed Captioning EIA-608 and EIA-708
- Equipped with EAS interface (Analog Video + L/R Audio)
- Supports Real-time Dolby® Digital AC-3 audio encoding
- Supports user-defined PSIP configuration

GOING ALL DIGITAL
TV EVERYWHERE

OPTIMIZED HD
LOW LATENCY

SCALABLE VIDEO PROCESSING
NEXT GENERATION IPTV

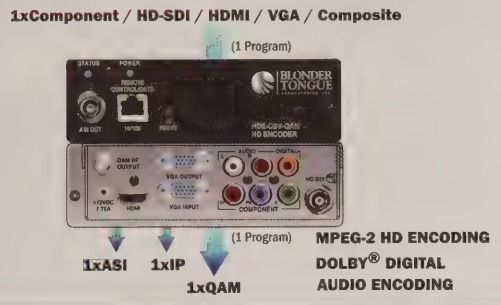


TEST & MEASUREMENT
NETWORK EFFICIENCY

Blonder Tongue

SOLUTIONS FOR ALL YOUR APPLICATIONS

HDE-CSV-QAM MPEG2 HD Encoder



- Accepts one (1) program from any of the following inputs: 1xComponent, 1xHD-SDI, 1xHDMI (unencrypted), 1xVGA, and 1xComposite
- Simultaneously delivers the following outputs: 1xQAM, 1xASI, and 1xIP
- Provides +40 dBmV QAM RF output level
- Provides comprehensive GUI-based monitoring and control via standard Web browsers
- Compact design permits installation of up to 3 Encoder modules in 1RU
- Supports Real-time Dolby® Digital audio encoding
- Supports user-defined PSIP configuration
- Supports Closed Captioning EIA-608 and EIA-708

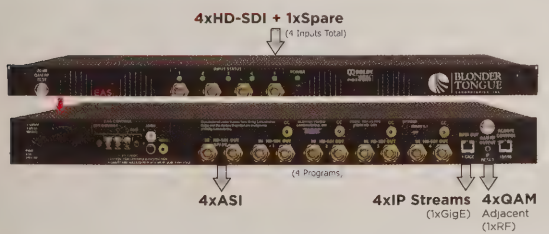
HDE-CHV-QAM MPEG2 HD Encoder

- Accepts one (1) program from any of the following inputs: 1xComponent, 1xHDMI (unencrypted), 1xVGA, and 1xComposite
- Simultaneously delivers the following outputs: 1xQAM, 1xASI, and 1xIP
- Provides +40 dBmV QAM RF output level
- Provides comprehensive GUI-based monitoring and control via standard Web browsers
- Compact design permits installation of up to 3 Encoder modules in 1RU
- Supports real-time Dolby® Digital audio encoding
- Supports user-defined PSIP configuration
- Supports Closed Captioning EIA-608

HDE-QAM MPEG2 HD Encoder

- Utilizes advanced motion estimation search to reduce "pixel trailing" on fast-moving videos (i.e. sporting events)
- Output bandwidth of 38.8Mbps at QAM 256 and capable of larger bandwidth with higher QAM modes
- Compatible with a large selection of HDMI devices; ten HDMI input parameters are user-selectable
- Compatible with a large selection of QAM tuners; ten QAM output parameters are user-selectable
- HD MPEG-2 encoder chip-set encodes single channel video in 480i/480p/720p/1080i formats
- Accepts compressed AC-3 audio and re-inserts into transport stream
- Supports sub-band QAM output of T7-T14 (5.75-53.75 MHz)
- Local and remote monitoring and control capabilities
- Front-panel RF test point (at 20 dB below output level)

HDE-4S-PRO MPEG2 HD Encoder



- Accepts up to four (4) programs: 4xHD-SDI
- Supports HD-SDI input loop thru for monitoring
- Simultaneously delivers the following outputs: 4xQAM (Adjacent), 4xIP (SPTS), and 4xASI
- Multiplexes up to four (4) input programs in any of the following output combinations: (i) 1:1 (1 program per QAM channel) (ii) 2:1 (2 programs per QAM channel, not exceeding 38.8Mbps)
- Each of the four (4) QAM channels can (i) contain 1 or 2 programs, and (ii) be turned on/off individually
- Provides 40 dBmV QAM output level for four (4) combined channels
- Provides comprehensive GUI-based monitoring and control via standard Web browsers
- Supports Closed Captioning EIA-608 and EIA-708
- Equipped with EAS interface (Analog Video + L/R Audio)
- Supports Real-time Dolby® Digital audio encoding
- Supports user-defined PSIP configuration

DRAKE

EH24 HD/SD Encoder Host - Single QAM/ASI Output

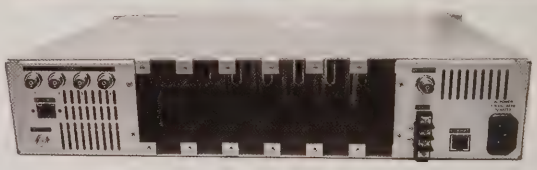
- Drake's EH24 scalable encoder host supports up to 6 encoder modules in a 2RU chassis and outputs a single QAM/ASI channel.

EH244 HD/SD Encoder Host - QUAD QAM/ASI Output

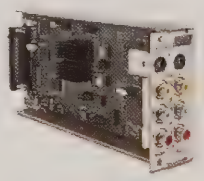
- Drake's EH244 scalable encoder host supports up to 6 encoder modules in a 2RU chassis and outputs 4 frequency-adjacent QAM/ASI channels.

EH244-IP HD/SD Encoder Host - IP Output

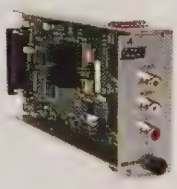
- Drake's EH244IP encoder host supports up to 4 encoder modules in a 2RU chassis and outputs an IP-encapsulated multicast SPTS or MPTS, configurable via an Ethernet web server.



HDE24
MPEG2/MPEG4 HD Encoder

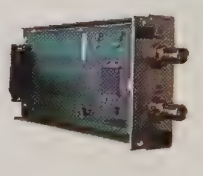


SDE24A
MPEG2/MPEG4 SD Encoder



SDE24EAS
Emergency Alert SD Encoder

SDI24A
MPEG2/MPEG4 HD Encoder



ASII
ASI Input Module

HDE24

Video

HDMI™:	1 x HDMI Input - to protect copyrighted content, this encoder does not support HDMI copy protection (HDCP)
Component Video:	1 x HD Component (YCrCb) Video Input
Composite Video:	1 x 1V p-p +/- 3 dB, 480i only
Closed Captioning Input:	1 x 1V p-p +/- 3 dB, 480i Composite Video (used for Closed Captioning data extraction during HD encoding)

Audio

RCA-type L + R:	1 x 1Vrms nominal, 3.5Vrms maximum
HDMI-embedded Audio:	Supports PCM (uncompressed) digital audio from HDMI
Encoder Format:	Dolby Digital® AC-3 or MPEG1, Layer 2

SDI24A

Video

SD-SDI / HD-SDI Video:	1 x 75-ohm HD-SDI capable input
Encoder Format:	MPEG2 or MPEG4 / H.264
Bitrate:	Up to 19 Mbps (depending on input format)
Closed Captioning:	Supports Closed Captioning extraction of either EIA-608 or EIA-708 embedded data

Audio

RCA-type L + R:	1 x 1Vrms nominal, 3.5Vrms maximum
SDI-embedded Audio:	Supports PCM (uncompressed) digital audio from SDI
Encoder Format:	Dolby Digital® or MPEG1, Layer 2

SDE24A

Analog Interface

Composite Video Inputs:	2 composite inputs, one for each program/source
Composite Video Input Level:	1 Volt p-p ± 3 dB
Audio Inputs, for 2 Programs:	RCA type for L + R audio channels, 2 sets
Audio Input Level:	1 Vrms or 2 Vrms user-selectable and user-adjustable audio gain ± 15 dB
Encode Format - #1 Input:	MPEG2 or MPEG4/H.264, selectable
Input Encoding Bitrate:	Constant Bitrate: 1 Mbps to 8 Mbps
Encoding Resolution:	720 X 480 (Standard Definition)
Video Adjustments:	Brightness, Contrast, Saturation, Hue
Audio:	AC3 - Dolby Digital® Stereo or MPEG1, Layer 2 (MP2)

SDE24EAS

Analog Interface

Video Input:	1 RCA-type composite video port
Composite Video Input Level:	1 Volt p-p ± 3 dB
Audio Input:	RCA-type for L + R audio channels

Video

Video Encode Format:	MPEG2
Input Encoding Bitrate:	1 to 8 Mbps (constant bitrate)

Audio

Encoder Format:	Stereo Dolby Digital® AC-3™ audio, OR MPEG1, Layer 2 (MP2)

ASI

ASI Input Clock:	270 MHz
ASI Input Data Rate:	Maximum of 80 Mbps
ASI Output Rate:	Identical to the ASI Input Stream

opticomm emcore

HDD-M4-1-RM Video & Audio IP Decoder

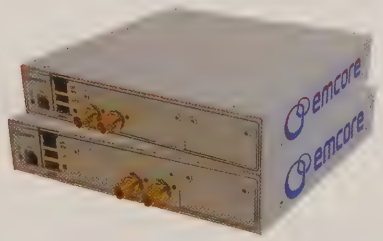
- Decode MPEG-2 / MPEG-4 signals from various sources including DVB-S/S2/T/C, ASI and IP
- Enables IP/ASI conversion and IP stream descrambling
- Multi-channel IP unicast and multicast (SPTS outputs for IPTV)
- Program filtering
- Pro-MPEG FEC (SMPTE-2022) support
- Multiple outputs, including HDMI, HD/SD-SDI, ASI, YPbPr CVBS, and IP
- NTSC, PAL, and SECAM compatible
- Optional tuner input for DVB-S / S2 / T / C Configuration and monitoring through front panel or SNMP network manager.
- BISS I and E support

HDE-M4-1-RM Video & Audio IP Encoder

- Vi Compliant with MPEG-4 / H.264-AVC standard
- MPEG 1 layer-II audio encoding
- NTSC/PAL SD video format
- SMPTE-296/SMPTE-274 HD video format
- TS/IP Unicast and multicast output
- HDMI, HD/ SD-SDI, YPbPr, CVBS inputs
- Digital SPDIF audio input
- Dolby AC-3 audio encoding (optional)
- Supports multiplexing of MPEG-4 video & audio compressed data streams with DVB packing
- Supports SD or HD TS stream output with corresponding definition of input signal
- SI related editing table
- IP output compliant with UDP/RDP protocol
- Configuration and monitoring through front panel or SNMP network manager.

NVE-1-3G & NVD-1-3G JPEG2000 Encoder/Decoder

- Video and audio transmission over IP
- JPEG 2000 compression / expansion
- Supports all video standards up to 1080p/60Hz
- Accepts embedded audio via 3G HD-SDI
- Video Signals: 3G HD-SDI, HD-SDI and SDI
- 1 Gbps Ethernet Interface
- USB HID for keyboard and mouse control
- USB programming and control interface



PICO DIGITAL

PD1000 HD Dense Encoder Modulation System

- Platform based encoder with up to four field hardware upgradeable dual channel encoder modules
- Software upgradeable for future proof feature upgrades
- Supports 480i to 1080p real time encoding and up to 8 HD video channels in MPEG-2 or H.264 formats in 1RU
- MPEG audio encoding plus optional Dolby® Digital Stereo Creator•
- Output resolution same as input resolution• Inputs per dual encoder module - component, HDMI (clear), and composite/closed caption
- Integrated support for Emergency Alert System (EAS)
- Automatic detection of input type and format
- Outputs four consecutive QAM channels
- IP output – Unicast/Multicast, UDP/IP, SPTS
- Simultaneous QAM/IP output
- PSIP tables allow user to configure virtual channel map for each channel
- High output power with 60 db mV Max. pre-combined
- Secure management and configuration via easy to use web browser

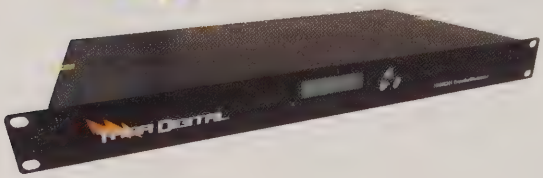
SDQ6 6 Channel SD Encoder QAM/Modulator

- Will encode up to six composite video and stereo audio inputs into one QAM
- QAM modes supported: Annex B, 64, and 256
- Codec: MPEG 2 MP@ML video compression
- Frequency range 54 to 864 MHz
- Maximum output level 40 dBmV
- 1 RU unit
- EAS and Closed Caption equipped
- Remote control via web browser
- PSIP tables allow user to configure virtual channel map for each channel

MEC MPEG2 Encoder Module

- 2RU Modular design with low power consumption
- Analog composite video input in NTSC/PAL format
- 4:2:0 MP@ML video compression from 2.5 to 15 Mbps
- Analog stereo audio input
- MPEG-1 layer2 or Dolby® Digital (AC3) audio compression
- ISO/IEC 13818-1 PAT and PMT tables with Single Program transport
- stream (SPTS) output transport stream
- Local control via front panel display and keys
- Remote control via supplied utility

THOR DIGITAL



HDMET HD Encoder/Modulator

- One or Two Program HD Encoder / COFDM Modulator
- Multiplex All the Programs on One COFDM Channel
- Frequency Agile COFDM Channel, from 177.5 MHz to 816.5 MHz
- 85 dBuV RF Output Level
- Virtual Channel Numbering
- Short Program Name (7 Digits)
- 30 dB MER

WELLAV

Ktechtelecom

DCC-4200 Multi-Channel HD/SD Encoder

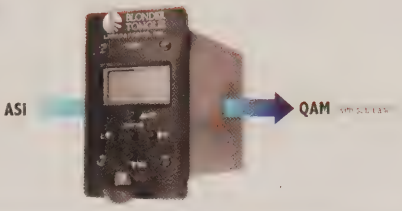
- Multiple HDSDI/SD-SDI Inputs
- 8-VSB RF Output 3 adjacent carriers (Optional)
- Web-based GUI NMS and Front Panel Control
- Multiple HD/SD MPEG2 Encoders
- Static PSIP Generation
- Standby Video Generation (Optional)
- Fail-Over/Fail-Back (Optional)
- QAM Modulation (Optional)

SMP260E Real-Time SD/HD Encoder

- High density encoding capability up to 12 programs.
- Any-to-any encoding: CVBS/SDI/HDMI, SD/HD, MPEG-2/H.264
- Supports CVBS/SDI/HDMI input
- Full audio encoding: MPEG-1 Layer II Audio, LC-AAC,HE-AAC and Dolby AC-3(Optional)
- Supports multi-audio encoding for 1 program.
- Supports CBR/VBR encoding Independent embedded ASI and IP I/O for different applications.
- Re-multiplexing and cherry picking.
- Supports EPG/EIT re-multiplexing (optional).
- Configuration and monitoring programs via NMS, Web GUI or SNMP.
- High efficiency with low power consumption in 1 RU compact chassis.

AQM Agile QAM Modulator

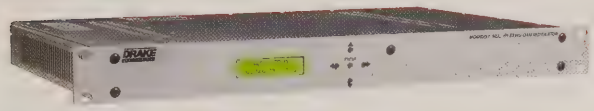
- Input standard supported is ASI with data stream not to exceed 270 Mbps
- Output standards supported are ITU-T J.83 Annex A and Annex B (QAM 16, 32,64, 128, 256, 512, and 1024)
- Optional IF output (Intermediate Frequency) and LVDS input (Low-Voltage Differential Signal) is available
- Compact design allows for deployment of six modules in 2RU rack space



DRAKE

MQM1000 Multiplexing QAM Modulator

Accepts up to 2 Multiprogram Transport Streams via BNC ASI Connectors



MQM6000L Multiplexing QAM Modulator

Accepts up to 6 Multiprogram Transport Streams via BNC ASI Connectors

- High output, 61 dBmV, QAM modulator and very low noise agile upconverter are built in
- Output is agile on CATV or broadcast channels from 1002 MHz. Dual ASI Inputs
- TS Multiplexer for MPEG2 streams
- Program filtering of both A and B input streams. User select or drop any of the incoming programs.
- ATSC PSIP is supported
- MPEG program and minor channel number offsetting multiplexing
- Major channel number pass through or remarking is selectable when multiplexing
- Rewriting of the MPEG tables is provided when two in streams are multiplexed
- PCR correction is performed when necessary
- RS232 remote control and monitoring capability with included Drake Digital
- Headend Control Software (v. 2.6 or later)
- High MER output signal quality

QMOD-HDMI 1.5

HDTV Modulator

- One HDMI (non-HDCP) input, up to 1080p video and audio
- One RGBHV/Component input, up to 1080p video
- Two Composite video inputs for encoding, captioning, or EAS use
- Two sets of stereo and SPIDF coax audio inputs

Contemporary Research

QMOD-YBP2

HDTV Modulator

- Two Component inputs; 1080i, 720p, 480p, 480i
- Two Composite/CC video inputs for encoding, captioning, or EAS use
- Two sets of stereo and SPIDF coax audio inputs

QMOD-SDI 1.5

HDTV Modulator

- One HD-SDI input, 3G 1080p and 1080i/720p 59.94/60 Hz HD-SDI, and SD-SDI 480i widescreen/4:3 video; also accepts embedded 608/708 captioning and AC-3/AES audio
- One Component input, 1080i, 720p, 480p, 480i video
- One Composite video input for encoding, captioning, or EAS use
- Stereo, optical and coax audio inputs

QMOD-HDMI 2

HDTV Modulator

- Two HDMI inputs
- Two Composite/CC video inputs for encoding, or captioning,
- Two analog Stereo and two SPDIF coax audio inputs

QMOD-SDI 2

HDTV Modulator

- Two SDI inputs, up to 3G
- Two Composite/CC video inputs for encoding, or captioning
- Two analog Stereo and two SPDIF coax audio inputs

HDME-4Q 4 Program

HD Encoder/QAM Modulator

- Multiplex the Programs on Two QAMs
- Frequency Agile QAM Channel, from Channel 2 to Channel 135
- 45 dBmV RF Output Level
- Virtual Channel Numbering
- Short Program Name (7 Digits)
- 40 dBmV MER
- Rack Mount
- Remote GUI for Management and Control
- Compression Codec MPEG2 or H.264
- Closed Caption Supported (708)

The HDME 4Q is a FOUR program High Definition digital modulator with a 4 channel, 2 QAM output. With the HDME 4Q you can convert video signals into Digital TV channels for distribution to any number of TV's on the system. The HDME was engineered to work with Satellite receivers, Digital Signage players, DVD players, Media players and any other device with a video output.

The HDME 4Q has four separate program inputs, either HDMI, component (Y,Pb,Pr) or composite video. The device then digitizes the program and modulates it on a standard QAM channel for distribution to TV's over a standard basic coax (cable TV) system. This is ideal for Sports Bars, Casinos, Retirement Facilities, Schools, Sports Venues and Motels / Hotels.

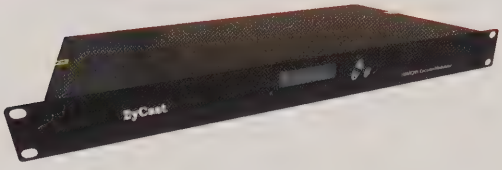
The HDME 4Q has a easy to use GUI on a separate 10/100 data port (RJ45) for local or remote setup. The unit also can be configured from the front panel. With a high performance encoder chipset, the HDME 4Q has video resolution up to 1080I (1080P for H.264) for the highest quality video!

The modulator has a high output level of 45dBmV so you don't need an amplifier for distribution and the MER is 40 dB or greater so you can be sure that the picture quality will be as good on the last TV as it is on the first. The HDME4Q is a high performance digital modulator that is very cost effective for just about any application.

HDME-2 Series 1, 2 or 4 Program

HD Encoder/QAM Modulator

EAS Program Interface • ASI/IP Output



The HDME is a perfect solution for Small Cable Systems, Hotels, Motels, Sports Bars, Casinos, Restaurants, Gyms, Schools, Industrial or Commercial Applications and anywhere an A/V Digital source needs to be added to a TV system.

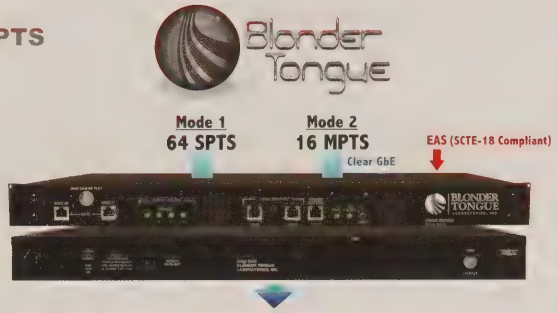
The HDME2 Series Encoder / Modulators are high performance HD encoders with multiple outputs. They take an HDMI or Component input, encode it in MPEG2 or H.264 (MPEG4) with Dobly AC-3 audio encoding and then modulate these program(s) on a standard QAM channel. They also feature both an ASI output and an IP output which are active along with the QAM at the same time. The HDME102 will encode one program on a single QAM, the HDME202 will encode two programs on one QAM and the HDME402 will encode four programs on two QAM's. Also featured is an EAS function with composite video input.

HDME-102 One Program
HDME-202 Two Program
HDME-402 Four Program

- One, Two, or Four Program Encoder / QAM Modulator
- Multiplex the Programs on One or Two QAMs
- Frequency Agile QAM Channel, from Channel 2 to Channel 135
- 45 dBmV RF Output Level
- Virtual Channel Numbering
- Short Program Name (7 Digits)
- 40 dBmV MER
- Rack Mount
- Remote GUI for Management and Control
- Compression Codec MPEG2 or H.264
- EAS Program Interface
- Closed Caption Supported (708)
- ASI Output
- IP Output

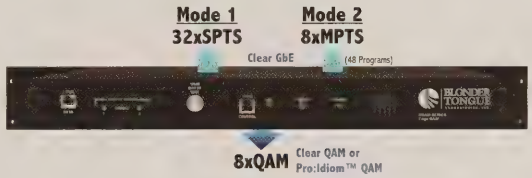
EQAM-420B EDGEQAM with EAS up to 16 MPEG2/4 MPTS

- SPTS Mode: Accepts up to sixty-four (64) MPEG-2/H.264 Single Program Transport Streams (SPTS); 1 video + 1 audio per program
- MPTS Mode: Accepts up to sixteen (16) MPEG-2/H.264 Multi Program Transport Streams (MPTS), each MPTS with maximum 6 programs and not to exceed 38.8 Mbps; 1 video + 3 audios per program
- Supports IGMPv2 and IGMPv3 protocols
- Configured with 4 modules, each with four (4) adjacent QAM channels, for a total of 16 QAM channels
- Provides network based EAS switching based on SCTE-18 (by program substitution)
- Comprehensive GUI-based menu for remote monitoring and control via standard Web browsers
- Provides a front-panel RF test point (at 20 dB below primary QAM output)
- Accepts variable and constant bitrate streams
- Provides Null packet insertion and deletion
- Provides PCR correction



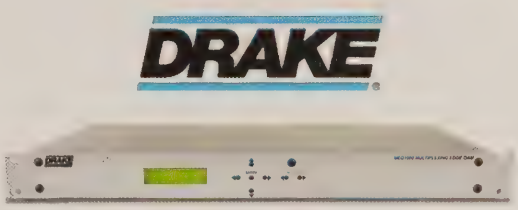
EQAM-420A EDGEQAM with EAS up to 8 MPEG2/4 MPTS

- Mode 1: Accepts up to thirty-two (32) MPEG-2/H.264 Single Program Transport Streams (SPTS)
- Mode 2: Accepts up to eight (8) MPEG-2/H.264 Multi Program Transport Streams (MPTS), each MPTS with maximum 6 programs and not to exceed 38.8 Mbps
- Configurable with one or two modules, each with four (4) adjacent QAM channels, for a total of eight (8) QAM channels
- Comprehensive GUI-based menu for remote monitoring and control via standard Web browsers
- User-selectable QAM 16, 32, 64, 128, and 256 modulation modes
- Provides a front-panel RF test point (at 20dB below primary QAM output)
- Provides SNMPv2 for product and network management
- Accepts variable and constant bitrate streams
- Provides Null packet insertion and deletion



MEQ1000 Multiplexing Hybrid QAM Modulator

- 2 Rear Panel Input Module Bays can accommodate any combination of input modules
- Two to one program stream multiplexer
- Null packet processing and PCR correction of output multiplex
- Rewriting and custom offsets of MPEG program numbers when required.
- PSIP pass through to build a new table for the combined output signal, disable PSIP or will build its own MGT and VCT tables for program streams
- EAS (Emergency Alert System) compatible with SCTE18 force tune table generation and or as a slave to existing Drake EH24/244 encoder hosts.
- High level (+61 dBMV), low noise multiplexed single RF QAM output



DUC864 Digital Signal Upconverter

- Upconverts a 44 MHz IF signal, modulated by a digital signal utilizing either 8-VSB or QAM modulation, without degradation to the digital transport stream that is ultimately recovered
- Supplies an output on any channel between 54 and 860 MHz. CATV or broadcast channel plans may be selected by a front panel switch
- Packaged in an extruded aluminum case to be utilized with other Drake Digital component series products

PICO DIGITAL™

IPQT-12 MGbE IP Input EDGE QAM Modulation System

- Accepts a GbE IP input from Technicolor COM100 systems and other clear or preencrypted sources
- Two RJ45 inputs support redundant IP input, dual sourcing, or loop through
- Supports up to 12 QAM-RF channels form 50 to 1002MHz organized as 3 independent groups of 4 channels
- Provides a 10/100Base-T Ethernet port for configuration, control and monitoring
- Integrated web server allows local or remote access using standard PC internet browser and provides simple, easy navigation of all IPQT-12 status and setup parameters
- Highly integrated 1RU rack mount chassis with support for external DC redundant power
- Includes EAS override support for clear QAM programming (with third party EAS receivers.)

Ktechtelecom

VSB-ENC-150E 8VSB Modulator

- 8VSB Modulator (meets ATSC A53 spec)
- Inputs: SMPTE-310M, DVB-ASI
- Outputs: 8VSB I.F. TP, 8VSB R.F., SMPTE-310M, DVB-ASI
- PSIP Modifications
- 1U 19" Rack Mountable

Televés

T.OX HDTV Endocer/Modulator

- Up to 1080p MPEG-2 and H.264 encoding with auto-detection of input type and format
- Real-time Dolby® Digital audio encoding
- PSIP tables (VCT) allow users to configure 3 types of virtual channel maps for each channel
- High power with +55 dBmV fully agile RF output from 5 to 1002MHz and >40dB MER
- Optional EAS interface with composite video and L/R audio
- Integrated ASI I/O provides easy EAS signal management
- Same form factor and interface as the other T.0X family members
- Easy-to-use and comprehensive remote control / monitoring / alarms from any web browser Local configuration with hand-held programmer
- Integrated RF Combiner and Ethernet switch for rapid deployment
- Automatic remote firmware upgradeability for new future-proof features
- Invisible watermarking for forensic content analysis

WELLAV

SMP330M IP QAM Modulator

- Supports TV programs by re-multiplexing up to 24-channel QAM or 12-channel OFDM outputs.
- Output 24 RF-QAM channels or 12 DVB-T channels for both SD and HD programs.
- Supports programs input from both ASI (four different sources) and GbE IP).
- Supports DVB-simulcrypt scrambling for up to 400 H.264 SD programs and output in QAM or OFDM.
- Supports Re-multiplexing and cherry picking.
- Supports audio and subtitle pass through and synchronization.
- Supports EPG/EIT re-multiplexing (optional).
- Supports TS-level BISS descrambling (optional).
- Configuration and monitoring programs via NMS, Web GUI or SNMP.
- High efficiency with low power consumption in 1 RU compact chassis

DTS860 8VSB/QAM to ASI Demodulator

- Receives ATSC 8VSB or clear QAM
- Converts signal to DVB-ASI transport stream
- Supports Closed Captioning
- Firmware updates available through front-panel
- Designed for use with Drake RMM12/PSM121 or RMM4 chassis

AQD ATSC/QAM Demodulator

- Input standards supported are digital off-air (8VSB) and digital cable (QAM 64 and 256)
- NTSC Composite Analog Audio/Video output is in 480i format and supports Closed Captioning (EIA-608)
- Optional AQD-RCS module allows remote monitoring and configuration of up to 80 AQD modules
- Optional AQD-SPS unit provides standby utility power to the primary power supply (AQD Power & Control module)

DRAKE

DAV860 Digital to Analog Decoder

- Receives ATSC 8VSB or clear QAM
- Decodes signal to NTSC Composite Analog Video
- Supports Closed Captioning
- Firmware updates available through front-panel
- Designed for use with Drake RMM12/PSM121 or RMM4 chassis

opticomm emcore

HDD-M4-1-RM Video & Audio IP Decoder

- Decode MPEG-2 / MPEG-4 signals from various sources including DVB-S/S2/T/C, ASI and IP
- Enables IP/ASI conversion and IP stream descrambling
- Multi-channel IP unicast and multicast (SPTS outputs for IPTV)
- Program filtering
- Pro-MPEG FEC (SMPTE-2022) support
- Multiple outputs, including HDMI, HD/SD-SDI, ASI, YPbPr CVBS, and IP
- NTSC, PAL, and SECAM compatible
- Optional tuner input for DVB-S / S2 / T / C
- Configuration and monitoring through front panel or SNMP network manager
- BISS I and E support

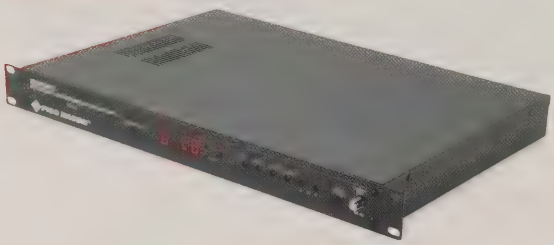
ADTEC Digital

Soloist-HD Pro Broadcast Decoder

- **Decode MPEG** stunning high defi nition decoding of AVC/H.264 and MPEG-2.
- **GIGE Decode:** Use the included GIGE interface to decode a live transport stream.
- **Up and Down Conversion:** Scale video up or down from NTSC to 1080i60.
- **Hard Drive Decode:** The Soloist-HD Pro includes a built in hard drive with a command interface and scheduler that can play a list or scheduled transport streams.
- **Automatic Fallback with Signal Loss:** The Soloist-HD Pro will fall back to hard-drive playout if a signal is lost.
- **High and Standard Definition:** Decode both SD and HD content with the Soloist-HD Pro.
- **Sound Professional:** Decode stereo MPEG 1 Layer 2, Dolby Digital and decode or down-mix Dolby 5.1.

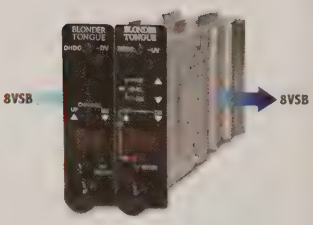
PICO DIGITAL™

DSP806 HDTV Agile Channel Processor



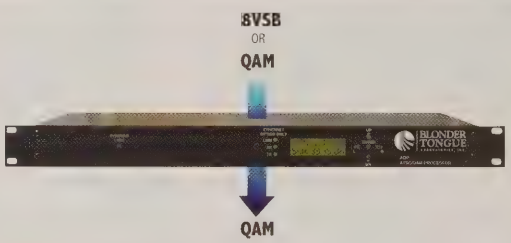
- ATSC (HDTV), QAM, and NTSC compatibility for CATV and terrestrial broadcast application provides maximum compatibility for all signal processing
- High 45dBmV output for optimum carrier-to-noise performance
- In-band carrier-to-noise ratio >65dB ensures superior picture quality.
- SAW filtered for superior adjacent channel performance enables drop-in channel expansion
- Non-volatile memory for input and output channel recall in the event of power failure
- Front panel controls and test point enable easy setup and monitoring
- Broadcast-quality specifications for unparalleled data translation
- IF loop provides compatibility with CMTS, QAM modulators and IF scramblers
- IRC and HRC input and output offset available for frequency settings in systems using offset channels

Blonder Tongue



DHDP Series Digital HD Processor

- Agile Broadcast (UHF, VHF) and CATV (Standard, HRC, and IRC) channel assignments in the 54-864 MHz range
- Compatible with Digital TV and High-Definition TV applications
- Compact design allows for deployment of six Combo modules in 2RU rack space



AQP ATSC/QAM Processor

- Supports sub-band QAM input channels T7 to T13 for remote digital origination applications
- Input standards supported are digital off-air (8VSB & 16VSB) and digital cable (QAM 16/32/64/128/206)
- Agile QAM output at +55 dBmV and in the frequency range of 54-864 MHz range

DRAKE

PS8 / DRMM12 / DRMM4

Modular Rack Enclosure & Power Supply

Power for up to eight of Drake Digital modules is provided by the PS8 power supply.

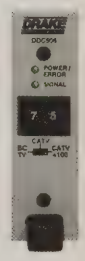
In addition to the PS8 power supply, up to 12 Drake Digital modules may be accommodated by the DRMM12 rack enclosure. The completed assembly occupies two rack units high in a standard 19 inch rack.

The PS8 Power Supply supplies the +5 VDC & +12 VDC required by the Digital Modules. Using appropriate, customer supplied adapters, the PS8 will also power other DRAKE analog Mini-rack System modules sharing the same rack. These include a demodulator, both fixed and agile modulators and stereo modulation modules.

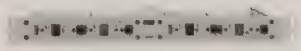
The DRMM4 Rack Enclosure with power supply is also available for housing and powering up to four single width modules. Typically, this rack is used with the DDC806 and DUC550 or DUC860 converters to create a simple and inexpensive hetrodyne channel processor for digital television signals.

DDC864 Digital Signal Downconverter

- Downconverter designed for translating digital ATSC, 8VSB signals from their off-air channel to a 44 MHz IF output
- Low noise figure and low phase noise as well as a flat passband to minimize signal deterioration
- Optiimized for use with ATSC 8VSB modulation in a 6 MHz wide channel assignment.
- Passband is designed for optimized operation with 8VSB signals in an adjacent channel environment

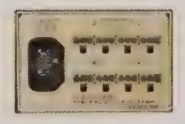


DRMM4 Rack Enclosure

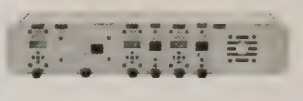


PS8 Front Panel

PS8 Rear Panel



DRMM12 Rack Enclosure



rgb NETWORKS

SEP48 Simulcast Edge Processor

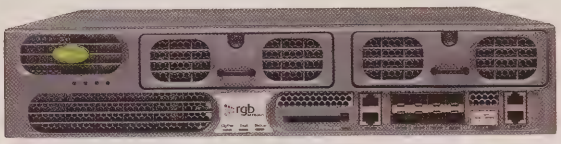
- The first digital solution to combine MPEG decoding, NTSC modulation and upconversion in a single rack unit platform.
- Greatly simplifies network architecture and lowers both capital costs and total cost of operations.
- With support for up to 48 channels per rack unit, saves considerable rack space and power at the edge.
- Offers full chassis, network and Gigabit Ethernet port redundancy.
- Supports Emergency Alert System (EAS) crawl overlays, as well as override, based on SCTE 18 standard.

MMC Modular Media Converter

- Based on RGB's flexible Video Intelligence Architecture™ (VIA), the MMC facilitates the transition to Gigabit networks.
- The first product capable of converting up to 24 ports of ASI to Gigabit Ethernet.
- High density enables centralized management of all services.
- Simplified graphical user interface improves manageability

BNP2XR Broadcast Network Processor

1 10/100 BaseT Control & Management Interface

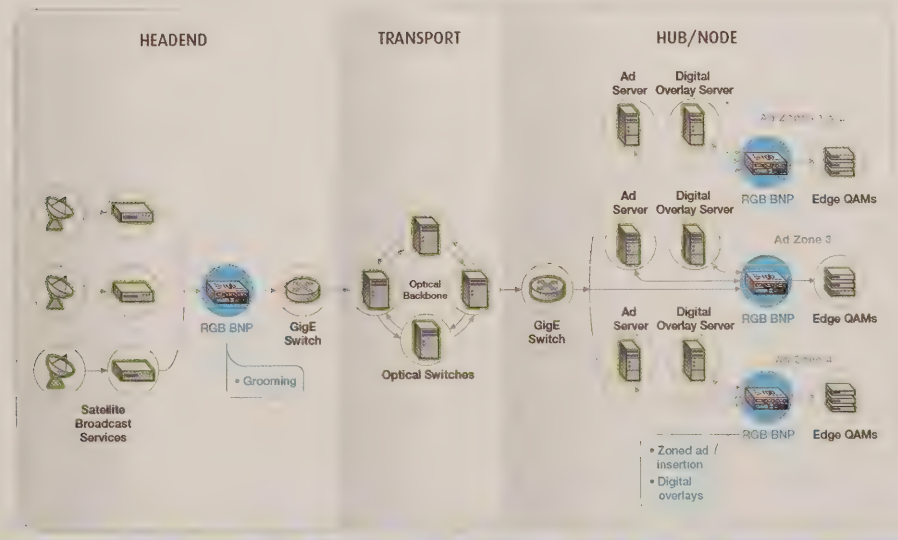


BNP3XR Broadcast Network Processor

2 10/100 BaseT Control & Management Interface

Redundant Hot-Swappable Power Supplies & Fans

- High-density product capable of supporting grooming, statistical multiplexing, transrating, splicing, and overlays, delivering simplicity and cost-efficiency.
- Transrates video programs with impressively high video quality.
- Support of multiple ad zones from a single device simplifies operation and management.
- Powerful digital overlay technology allows dynamic incorporation of graphics and text on any program, providing an elegant solution for critical enhanced messaging applications, such as Emergency Alert Services (EAS).
- Standards-based control of program substitution enables customized regional program line-ups using external scheduler management.
- Offers Enhanced TV (ETV) application processing for EBIF and EISS with bound, pre-bound and late-binding support.



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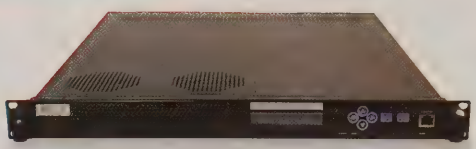


SMP100 Stream Media Platform

With Specific Modules, DMP900 Provides:

- Any Input to Any Output
- Compact modular design: 1RU with 6 modules
- Multi-Function: multiplexing, receiving, encoding, transcoding, modulation scrambling, multiplexing and more.
- Power and I/O redundancy
- Hot swappable power supplies modules
- Future module/function supported

Highly Integrated Digital TV Solution

- 6 module slots in 1RU chassis, with more than 30 different modules to meet any requirements.

Encoding/Transcoding

- Up to 20 SD or 10 HD programs encoding
- Up to 40 SD or 10 HD programs transcoding (With 5 TCHD-M modules and IP module)
- Multi-audio MPG/AAC/AC3 encoding options available

Receiving

- Up to 20 frequencies of DVB-S/S2/C/T/T2/ISDB-T/ATSC receiving

Modulation/Scrambling

- Up to 40-QAM stream modulation
- Up to 20-OFDM stream modulation
- Up to 16 frequencies trans-modulation(DVB-S/S2/T/T2/ISDB T/ATSC to QAM/OFDM)

Stream Processing

- Up to Gbps processing (approx. 1500 programs)
- 24ASI ports of multiplexing
- 20 ASI to IP gateway
- Internal multiplexing
- EIT multiplexing
- Supports SI and EPG data insertion

DMP900 Digital Media Platform

Sharing the same functional modules with DMP900, SMP100 provides:

- Any Input to Any Output capability
- Compact modular design: 1RU with 3 modules and embedded ASI/IP interface
- Multi-Function: multiplexing, receiving, encoding, transcoding and modulation scrambling and more.
- SNMP input for remote integration and service
- Future module/function supported

Highly integrated digital TV solution

- This 1RU chassis as 3 module slots with more than 30 different modules for various functions. The SMP100 chassis includes ASI and IP inputs/outputs.

Encoding/Transcoding:

- Up to 12 SD &6 HD programs encoding
- Up to 24 SD &6 HD programs transcoding
- Multi-audio/AAC/AC3 encoding

Receiving:

- 12 frequencies of DVB-S/S2/C/T/T2/ISDB-T/ATSC receiving

Modulation/Scrambling:

- Up to 24-QAM modulating
- Up to 12-OFDM modulating
- 8 frequency transmodulation to QAM(DVB S/S2/T/T2/ISDB-T/ATSC)
- Scrambling module, up to 12 TS streams

Stream Processing:

- Up to 4Gbps processing (approx. 1000 programs)
- Up to 14 ASI ports of multiplexing
- Internal multiplexing or passthrough capabilities
- Support SI and EPG data insertion
- EIT multiplexing(option)

Embedded I/O Interfaces:

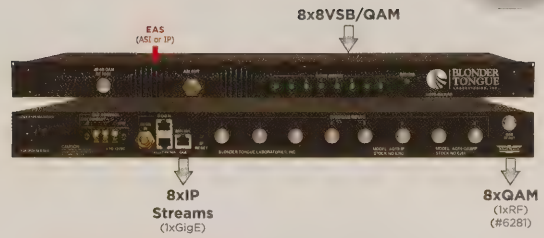
- 4 x 100Mbps (2 In ad 2 Out) ASI and 1 GbE
- TS/IP (real input/output up to 860 Mbps) interface on chassis

Base Unit

DMP900	Base unit (Mux/Dual-Power/Management/6xslots), w/ or w/o BISS
SMP100	Base unit (ASI/Mux/Power/Management/3xslots), w/ or w/o BISS/IP

Available Module

DVBS2	DVB-S2 receiver (4 channel)
DVBC	DVB-C receiver (4 channel, J.83 A/C or B)
DVBC+	DVB-C receiver (4 channel, J.83 A/B/C)
DVBT	DVB-T receiver (4 channel)
ATSC	ATSC receiver (4 channel)
DVBT2	DVB-T2 receiver (4 channel, future option)
ISDBT	ISDB-T receiver (4 channel)
CI	Common interface module (2 CAM slots)
Scrambler+	Scrambler (max./12 channel)
TSIP	TSIP with SFP (64In32Out, or16In256Out)
ASI	ASI input or output (4 channel)
DS3	DS3 2In2Out or 4In4Out
QAM	QAM Annex A/B/C (max.8 channel)
IQAM	16 QAM RF channel
LQAM	1~4 QAM RF channels
OFDM	OFDM (2/4 channel)
IPQAM	QAM Annex A/B/C (8 channel)/OFDM (4 channel)
SQAM	QAM (4/8 channels, w/Scrambler, w/o IP)
SOFDM	OFDM (2/4 channels, w/Scrambler, w/o IP)
EN2AV-2S+	New MPEG-2 AV encoder (2 SD programs)
EN2AV-4S	MPEG-2 AV encoder (4 SD programs)
EN4AV-4SM	H.264/MPEG-2 low-bit rate AV encoder (4 SD programs)
EN2SDIS+	New MPEG-2 SDI/AV encoder (2 SD programs)
EN2SDIS-MPG	EN2SDIS+ with additional 2xMPEG1L2(multi-audio)
EN2SDIS-AC3	EN2SDIS+ with additional 2xAC3(multi-audio)
EN4SDIS+	New H.264 SD SDI/AV encoder (2 SD programs)
EN4SDIS-MPG	EN4SDIS+ with additional 2xMPEG1L2(multi-audio)
EN4SDIS-AC3	EN4SDIS+ with additional 2xAC3(multi-audio)
EN4SDIH+	New H.264 HD SDI/AV encoder (2 HD programs)
EN4SDIH-MPG	EN4SDIH+ with additional 2xMPEG1L2(multi-audio)
EN4SDIH-AC3	EN4SDIH+ with additional 2xAC3(multi-audio)
EN4SDISM+	New H.264/or MPEG-2 low-bit rate SDI/AV encoder (2 SD programs)
EN4SDISM-MPG	EN4SDISM+ with additional 2xMPEG1L2
EN4SDISM-AC3	EN4SDISM+ with additional 2xAC3
EN4HDMI	H.264 HDMI encoder (2 SD/HD programs)
EN4SDIHM	High-quality encoding module for broadcast distribution(2 SD or 1HD, future option)
TC2-4S	Transcoder to MPEG2 (4 SD programs, or 2 SD programs with downscaling)
TC2-2S	Transcoder to MPEG2 (2 SD programs, w/o downscaling)
TC4-4S/2H	Transcoder/Transrating to MPEG-4 (4 SD or 2 HD programs)
TC4-2S	Transcoder/Transrating to MPEG-4 (2 SD programs, w/o downscaling)
TCSD-4SM	Transcoder/Transrating to Low-bit Rate SD MPEG-2/H.264 (4 SD programs, or 2 SD programs with downscaling)
TCHD-M	8 SD or 2 HD low-bite transcoding (MPEG2 & 4)
TCMS-M	Multi-screen low-bit transcoding (2 programs, 13 H.264 profiles, available for DMP900)
Decoder	2-SD&HD SDI&HDMI Decoder Module



AQT8-QAM/IP ATSC/QAM Transcoder

QAM Input ▶ QAM/IP Output

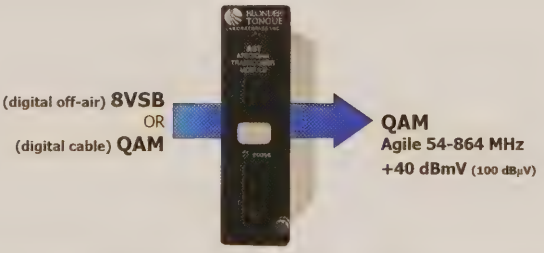
AQT8-IP ATSC/QAM Transcoder

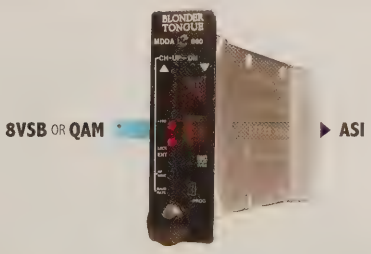
QAM Input ▶ IP Output

- Accepts up to eight 8VSB or QAM channel inputs
- Provides a combination of eight SPTS or MPTS via one GigE RJ45 port
- Provides comprehensive GUI-based monitoring and control via standard Web browsers
- Supports Closed Captioning EIA-608 and EIA-708 when embedded in RF input(s)
- Accepts EAS input in ASI or IP formats (IP delivered services only)
- Provides in-service monitoring of selected input/output ports via RF Test connector and ASI output

AQT ATSC/QAM Transcoder

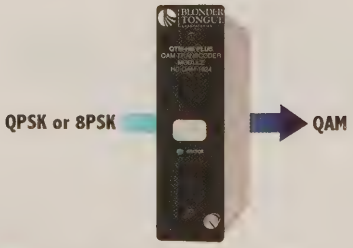
- Input standards supported are digital off-air (8VSB & 16VSB) and digital cable (QAM 16, 32, 64, 128, and 256)
- Agile QAM output at +40 dBmV and in the frequency range of 54-864 MHz range
- Optional AQT-RCS module allows remote monitoring and configuration of up to 80 AQT modules
- Optional AQT-SPS unit provides standby utility power to the primary power supply (AQT Power & Control module)





MDDA-860 ATSC/QAM Transcoder Module

- Input standards supported are digital off-air (8VSB) and digital cable (ITU-B QAM 64 and 256)
- Die-cast Chassis Offers Superior Protection against Ingress or Egress
- Demodulates & transcodes HDTV/SDTV digital signals to ASI
- Compact design allows for deployment of 12 units in 2RU
- On-site firmware updates available through front-panel



QTM QAM Transcoder Module

- Supports the 8PSK modulation typically used for High-Definition TV programming
- Supports ITU-T J.83 Annex A and Annex B standards (QAM 16, 32, 64, 128, 256, 512, and 1024)
- Compact design allows for deployment of 8 transcoders, and power & control module, in 3RU rack space
- Optional Headend Web Server allows for remote monitoring and control of each transcoder
- • Optional Standby Power Supply allows for uninterrupted

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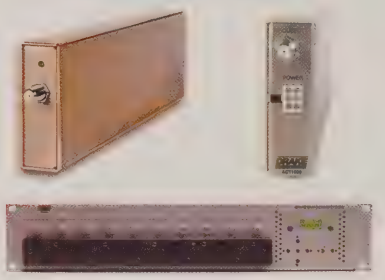

ACT1000 ATSC to QAM Transcoder

- Transcodes one 8VSB/ATSC broadcast channel to a single QAM output channel
- Can also translate or process a single QAM channel on its original input channel assignment or to a different QAM output channel
- For distribution on any RF cable type system where sufficient bandwidth is available and the added cost of multiplexing two ATSC channels to one QAM channel is prohibitive
- Densest configuration currently available with the ability to house 10 transcoders in 2 rack spaces
- Simple, flexible and affordability

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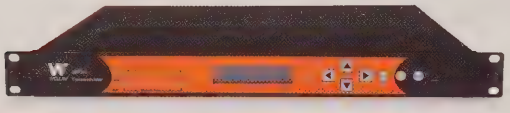


SMP330T Multi-Channel Transmodulator

- Receive up to 8 ATSC channels and output 8 QAM- RF channels or 4 DVB-T channels
- Supports both ASI and IP input/output for redistribution and transmission.
- ASI/IP input for local content and private data insertion.
- Supports Re-multiplexing and cherry picking.
- Option to add DVB-simulcrypt scrambling capability.
- Supports EPG/EIT re-multiplexing (optional).
- Supports TS-level BISS descrambling (future optional).
- Configuration and monitoring programs via NMS, Web GUI or SNMP.
- High efficiency with low power consumption in 1 RU compact chassis.

SMP260T Real-Time SD/HD Transcoder

- High density transcoding capability up to 12 programs.
- Comprehensive transcoding solution: SD/HD, MPEG-2/H.264.
- Transrating, rescaling, de-interlacing, frame rate conversion.
- Digital to digital decode and re-encode with minimum loss in video quality.
- PAL to NTSC (576i to 480i) mutual conversion.
- Supports CBR/VBR encoding
- Re-multiplexing and cherry picking.
- Independent embedded ASI and IP I/O for different applications.
- Supports audio and subtitle pass through and synchronization.
- Supports EPG/EIT re-multiplexing (optional).
- Configuration and monitoring programs via NMS, Web GUI or SNMP.
- High efficiency with low power consumption in 1 RU compact chassis.

PICO DIGITAL

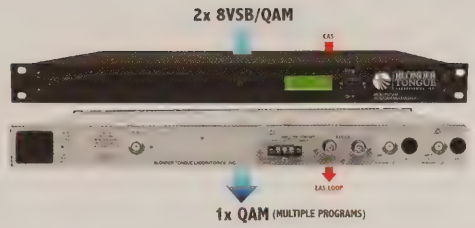
XTC QQPSK/8PSK to QAM Turbo Transmodulator

- Tunes and demodulates QPSK/8PSK satellite signals in DVB-S, DVB-S2 modulation including DISH Turbo FEC
- Outputs 4 or 8 transponders of SD or HD video in 4 or 8 QAM-RF channels
- Superior QAM performance with unequalized MER at 39dB, high output levels, and return loss >15dB
- Internal web server allows any PC to access web pages for easy configuration and simple local and remote operation
- DISH quick start wizard searches for DISH signals for a quick install
- Dense with up to 8 channels in 1 RU, low power for low heat and long life

SVT MPEG2/4 Video & Audio Transcoding

- Seamless real time transcoding of television programming
- Input format may be MPEG2 or H.264, SD or HD with user selectable output formats
- Applications include conversion of HD originated content to add simultaneous SD services
- Performs simultaneous real-time transcoding of 2, 4, 6 or 8 programs (outputs 1HD or 2SD per block)
- Integrated web server allows local or remote access from a PC via standard Internet browser
- Web interface provide simple, easy navigation of all status and setup parameters

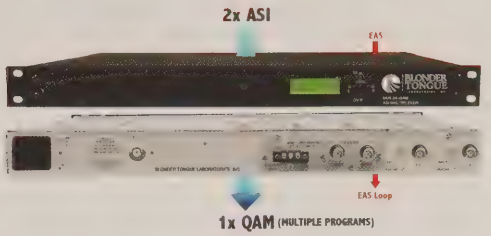
Blonder Tongue



MUX-2D QAM

8VSB/QAM Multiplexer

- Supports MPEG-2 Transport Stream Tables: PAT, PMT, MGT, RRT, STT, & VCT
- Re-maps duplicate PIDs, Program Numbers, and Minor Channel Numbers
- Allows sharing of the EAS input source among multiple units
- User-defined major/minor or 4-digit CATV virtual channels
- EAS input replaces up to 12 program streams
- Supports PID filtering & PSIP re-assignment
- Provides QAM 256 Output at 38.8 Mbps
- Accepts ASI input as EAS input source
- User-defined QAM Output Parameters
- Maintains MPEG-2 mapping



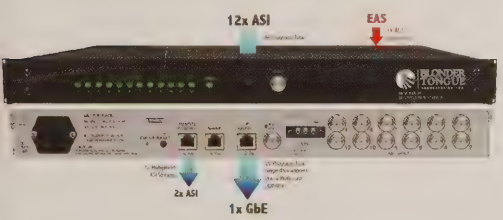
MUX-2A QAM

ASI Multiplexer

- Supports MPEG-2 Transport Stream Tables: PAT, PMT, MGT, RRT, STT, & VCT
- Re-maps duplicate PIDs, Program Numbers, and Minor Channel Numbers
- Allows sharing of the EAS input source among multiple units
- User-defined major/minor or 4-digit CATV virtual channels
- User-defined channel names
- EAS input replaces up to 12 program streams
- Supports PID filtering & PSIP re-assignment
- Provides QAM 256 Output at 38.8 Mbps
- Accepts ASI input as EAS input source
- User-defined QAM Output Parameters

MUX-12A QAM

12:1 ASI-to-IP Multiplexer



ASI Input

- Supports unencrypted MPEG-2/H.264 Single or Multi Protocol Transport Services (SPTS or MPTS)
- ASI port #12 is user-selectable for EAS messaging
- Supports 12 unencrypted ASI inputs, each up to 270 Mbps
- Performs PCR (Program Clock Reference) correction
- Performs Null Packet insertion & deletion

GbE Output

- Provides robust protection against IP network jitter and delay
- Performs PCR (Program Clock Reference) replacement
- Supports Uni- and Multi-cast thru RTP/UDP protocols
- Supports IPv4, ARP, IGMPv2, and ICMP protocols
- Supports variable and constant bitrates
- Provides a single IPv4 address & port

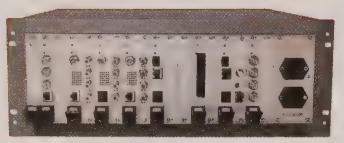
ADTEC Digital

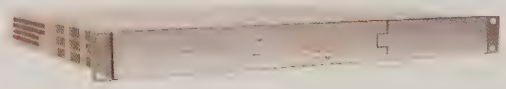
DTA3050 Digital Turn Around Router

- Digital television service operators wishing to aggregate and process MPEG, ATSC, Digicypher, or DVB based services for traditional (satellite, cable, terrestrial) services
- 10 ASI inputs
- Supports wire speed, a three-way mirrored ASI output, GIGE, and optional SMPTE-310.
- Redundancy for ASI through an intelligent built in relay-bypassed switch
- IPTV and BBTV ready
- Supports multicast and unicast configurations including SPTS/UDP, MPTS/UDP, MPEG and DVB tables.
- Encryption support includes DVB-CSA with Ethernet Simylcrypt, AES for use with Simylcrypt compatible Conditional Access management Servers (CAS) vendors.

sencore

DMG 3000/3100
Professional Multiplexers





- 1RU and 4RU chassis
- Gbit/s IP (electrical or optical), ASI, DVB-S/ S2, DVB-T, 8VSB and DVB-C inputs
- Any combination of inputs in the same chassis.
- Maximum: - 45 ASI /- 28 DVB-S/S2, DVB-T, DVB-C, 8VSB
- Gbit/s IP (electrical or optical), ASI, COFDM and QAM outputs supporting MPTS and SPTS
- Multiplexing
- PSI/SI regeneration | PSI/SI/PSIP input analysis
- Up to 28 DVB common interface slots for DVB descrambling
- Support for AES SW descrambling
- Support DVB and AES scrambling, simulcrypt interface based
- Intuitive web-based user control
- Dual redundant hot-swappable power supplies (Option, 4RU only)
- Monitoring of power and fans (4 RU only)
- SNMP Alarm MIB
- SOAP/XML Interface for external control

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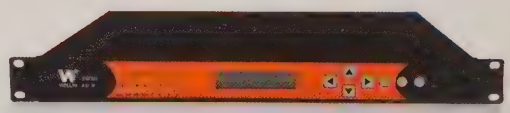


SMP350 ASI/IP Gateway

- 1Up to 10 DVB-ASI converting to IP stream (up to 12 streams), or up to 12 IP streams converting to DVB-ASI (up to 10 streams)
- ASI/IP mutual conversion with minimum loss in video quality
- Supports 10 ASI inputs or outputs
- Independent embedded IP I/O
- Re-multiplexing and cherry picking
- Configuration and monitoring programs via NMS, Web GUI or SNMP
- High efficiency with low power consumption in 1 RU compact chassis

PICO DIGITAL

PMX41 Four ASI Input MPEG Multiplexer

- Accepts up to 4 MPEG-2 or DVB transport streams to be combined on a single ASI output
- Inputs may be single or multiple program streams up to 100 Mbps each from common MPEG sources such as encoders, other multiplexers, demodulators, receivers and servers, in DVBASI format
- Output is single or multiple program transport stream of up to 100 mbps in DVB-ASI format suitable for modulation or other MPEG transport and processing equipment
- Passes DVB information and assembles SDT, NIT, EIT tables when in incoming streams' tables
- Simple to use front panel menus allows scan of inputs including data rates of the incoming material to avoid oversubscribing the output stream
- User selects the programs, video, audio content from each input to be passed on to the output
- Constant output rate selectable from 5 mbps to 100 Mbps
- Ethernet remote control with provided utility to augment front panel setup

DNP100 Network Media Player

DRAKE

- Enhanced bit rate for 1080i output
- Linux-based Operating System
- Network controlled API
- Webkit QT web browser for multi-layering overlays
- RS-232 output for commercial controlled environments
- API for native applications
- Synchronous triple output video
- LCD system status display

THOR DIGITAL

HDME-I/P-3
HD IP Streamer

- DLNA Certified
- Video resolution: Up to 1080p
- HDMI, Component, Composite inputs with auto detection
- Dual Mode H.264 MPEG-4 / MPEG-2 selectable
- Variable Bit Rate Control
- Closed Captioning Support
- Audio format : MPEG-1-Layer2(MP2), AAC, Dolby AC-3
- Easy installation and use
- GUI for setup and control
- GigE output port
- Light weight and compact design
- Front panel LED Status Display

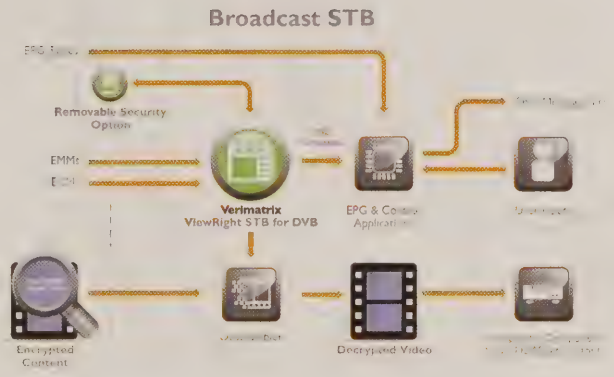
verimatrix

ViewRight Multi-Level Content Security for DVB Set-Top Boxes

- Basics - EMM, ECM, OSD Messaging, (I)PPV, VOD (non-IP based)
- STB Chipsets - ST, Broadcom, Fujitsu, Ali, NEC, Trident, Sigma, etc.
- Smart Card Chip - NXP (military grade)
- DVB-CI Module - Available from preferred vendor, others available after integration
- STBs - Variety of DVB-C/S/S2/T/T2, ISDB-T and MMDS preintegrated models, some ready for hybrid upgrade to IP networks.
- Memory Footprint, SW-Based Client - 500-750KB (depends on platform and security level)
- Supported Scrambling Algorithms - DVB-CSA; also AES if supported by STB and headend MUX
- Broadcast Support - MPEG-2 Multi-Program Transport Streams (MPTS)

CAS Conditional Access System

- Smart Card based and Smart Card free solution or any combination.
- Pay Per Channel / Pay Per View / Pay Per Time.
- Impulse Pay Per View – either by return channel or by a return channel free solution.
- Parental Control – CAS based middleware independent solution.
- Pairing – any kind of pairing ("no pairing" to "full pairing").
- Unified Data File Structure – individual data can be stored on the Smart Card.
- On Screen Messages – messaging services to individual customers.
- Father/Son – CAS based pairing between one father and a couple of connected sons.
- Chat – visiting up to 16 chat rooms; interact by mobile phone or by internet.
- Short Message Ordering System – prepaid order by mobile phone or by internet.



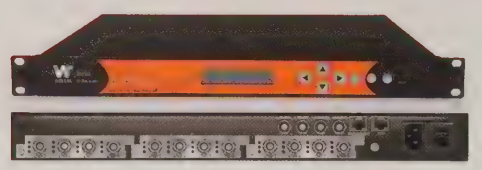
WELLAV

WHD7010C-P Cable HD Reciever

- Fully MPEG-4 HD digital and DVB-C compliant
- HD video resolution up to 1080p
- Support advertising in boot screen, menu and programs
- Multi-languages EPG, teletext and DVB subtitle support
- Four search modes: Manual/NIT/All frequency/Advanced
- CAS support, including: Betacryp, Conax, CTI, Novel-SuperTV, Panaccess & more
- OTA update
- Dolby AC-3 option

CAS Conditional Access System

The Xcrypt CAS system provides cable operators with a cost effective Conditional Access (addressable) solution for Digital Television distribution. The CAS server supports from 1,000 to 2,000,000 set tops deployed in the field. Cable operators have the ability to custom format their system with up to 32 tiers with as many as 256 television and or audio programs.



WELLAV

SMP180 Multi-Channel Satellite Receiver

- High density receiving with 1RU compact design.
- Variety of inputs including DVB-S2, DVB-C, ASI and IP(12In12Out).
- Re-multiplexing and cherry picking.
- Multi-channel decryption.
- Independent embedded ASI and IP I/O for different applications.
- Up to four integrated DVB common interfaces to descramble for full transport streams.
- Re-multiplexing of channels received.
- Supports EPG/EIT re-multiplexing (optional).
- Supports TS-level BISS descrambling (optional).
- Configuration and monitoring programs via NMS, Web GUI or SNMP.
- High efficiency with low power consumption

UMH160 H.264 HD/SD Integrated Receiver Decoder

- Receive MPEG-2/MPEG-4 signals from various sources including DVB-S/S2/T/C, ASI and IP
- Two common interfaces working simultaneously to support multi-channel decryption
- Program filtering
- Support various outputs including HDMI, YPbPr, CVBS, HD/SD-SDI, ASI and IP
- Optional TS/IP inptut/output enables IP/ASI conversion, IP stream descrambling
- Support multi-channel IP unicast and multicast (SPTS outputs for IPTV)
- Support Pro-MPEG FEC
- Network Management & SNMP support
- BISS I and E support

UMH160R SD/HD Satellite Receiver/Decoder

UMH160R is a powerful and cost-effective broadcast level decoder. It supports signal receiving, multi-channel descrambling, multiplexing, external table/data insertion, transcoding and transmodulating. It also supports MPEG-2/MPEG-4 SD/HD program decoding with two audio channels. With remote web-based management interfaces, it is ideal to support advanced content distribution, real-time signal conversion and transmission via an all IP headend system.

ADTEC Digital

RD60 Multi-CODEC IRD

- Automatic SD and HD detection
- AVC 422 Video decoding
- Sixteen (16) channels of phase aligned audio encoding
- Time Code, Captions and other VBI support
- Redundant Power Supplies
- Front Panel, Web UI, SNMP control and monitoring
- DVBS/S2 demodulation
- Demodulation modes from QPSK to 32APSK
- ASI and IP Receiving (IP supports SMPTE 2022 FEC)

RD70 Multi-CODEC 1080P IRD Platform

- Full frame 1080P 59.94/50 3G decoding*
- 3G Copper
- Fiber SFP Video Interfaces
- Automatic SD and HD detection, resolution and frame rate detection
- AVC 1080P 4:2:2 10 bit Video Decoding
- MPEG 2 SD/HD 4:2:2 Decoding
- Concurrent HD decode with SD down-convert on alternate SDI interface
- Sixteen (16) channels of phase aligned audio decoding
- MPEG 1 Layer 2, AAC*, Dolby Digital* Audio Decoding
- Dolby E and PCM pass-through
- Time Code, Captions, Teletext and other VBI
- Redundant Power Supplies
- Front Panel, Web UI, SNMP control and monitoring
- Optional DVBS/S2 demodulation supporting QPSK to 32APSK with 5% rolloff*
- ASI and IP Transport (IP supports UDP/RTP and SMPTE 2022 FEC)
- TCP/IP transport
- Adaptive Bit Rate decoding
- Web UI / Front Panel UI
- SNMP Control and Monitoring
- Remote UI video and audio thumbnail (preview of decode vialP network)

We are...

CONTRIBUTION based encoding and decoding solutions for end-to-end broadcast applications

DISTRIBUTION encoding for QAM and IP network infrastructures

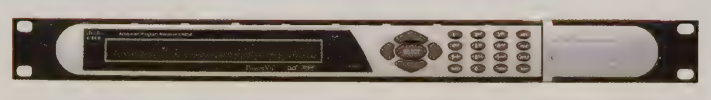
DIGITAL VIDEO PLAYERS and video servers for local origination and automated broadcast applications

COMMERICAL INSERTION solutions for cable and broadcast applications

ADTEC Digital

ONTRIBUTION SOLUTIONS SEEN BY MILLIONS

D9854
Advanced Program Receiver



- Four L-band inputs
- DVB-S QPSK demodulation
- DVB-S2 QPSK/8PSK demodulation
- PowerVu® conditional access with DES or DVB descrambling
- Supports Basic Interoperable Scrambling System (BISS) conditional access
- DVB-CI support for CAM-based conditional access
- 4:2:0 HD MPEG-4 AVC and MPEG-2 1080i and 720p decoding
- 4:2:0 SD MPEG-4 AVC and MPEG-2 decoding
- Aspect ratio conversion (4:3, 16:9, 14:9) with Active Format Descriptor (AFD) control for SD programs
- AFD support for down-conversion of HD programs with aspect ratio conversion
- Closed Captioning support for EIA-608 and EIA-708
- MPEG and Dolby® Digital audio decoding
- DVB or Imitext subtitling
- Four audio outputs providing either two stereo pairs or four mono channels of balanced audio, each with the ability to use part of their output for applications such as SAP, cue tones, etc.
- Utility data up to 38.4 kbps via RS-232
- Uplink addressable decoder output control (VBI, audio routing, DPI, and ASI output)
- Fingerprint trigger
- Field upgradeable software and security
- SNMP for setup, control, and monitoring
- Front panel LCD for control and monitoring
- Web browser interface for easy setup, control, and monitoring
- DVB-VBI and SCTE-127 support
- CAM Interface software
- DTMF cue tone and cue trigger outputs for ad insertion
- Digital Program Mapping providing uplink control for service replacements in blackout areas

D9858
Advanced Receiver Transcoder

- Four L-Band inputs
- DVB-S Demodulatoion for QPSK
- DVB-S2 Demodulation for QPSK and 8PSK
- PowerVu conditional access with DES or DVB descrambling
- Supports Basic Interoperable Scrambling System(BISS) conditional access
- Decryption and transcoding of up to two programs for digital transport output
- Program transcoding to support down-conversion of an MPEG-4 HD program to an MPEG-2 SD program
- PSI/SI regeneration for both programs
- 4:2:0 High Definition 1080i and 720p video decoding
- AFD support for down-conversion of a decoded HD program with aspect ratio conversion
- Dolby® Digital (AC-3) audio decoding
- Closed Captioning passthrough of EIA-608 and EIA-708 for transcoded programs
- Audio passthrough synchronization for transcoded programs
- Additional ASI outputs for redundancy
- MPEGoIP output for network connectivity
- DVB subtitle passthrough with transcode programs
- Contact closure terminals for simple alarm monitoring
- SNMP for setup, control and monitoring
- Field upgradeable software
- Front panel LCD for control & monitoring
- Web browser interface for easy setup, control and monitoring
- Uplink addressable decoder output control (VBI, audio routing, DPI, and ASI output)
- DMTF cue tone & cue trigger outputs for ad-insertion
- Digital Program Mapping providing uplink control for service replacements in blackout areas

D9865
Power Vu Digital Receiver

- DVB-S QPSK, DVB-S2 QPSK/8PSK demodulation
- Variable QPSK symbol rates from 1 to 45 Msymbols/s for DVB-S and DVB-S2
- PowerVu® conditional access with DES and DVB descrambling
- CAM interface hardware for DVB CAM-based descrambling
- 4:2:0 High Definition (HD) MPEG-2 and MPEG-4 AVC decoding
- 4:2:0 Standard Definition (SD) MPEG-2 and MPEG-4 AVC decoding
- MPEG, Dolby® Digital, and HE-AAC audio decoding
- DVB Subtitling and DVB VBI (WST, WSS, VPS)
- One unbalanced stereo pair of audio outputs
- Line 21 closed caption and V-chip support
- Fingerprint trigger
- Service replacement
- Field upgradeable software and security
- Front panel 4-digit LED?for channel display
- On-screen display menu for setup and status
- User-editable preset configurations

H24 HD Receiver

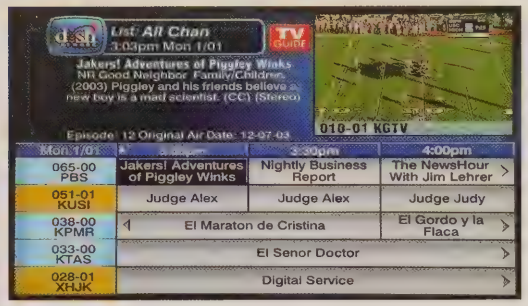
See what your HDTV can really do.
With the advanced features of the DIRECTV® HD Receiver, you'll enjoy TV like never before. Get up to 1080i picture resolution for astounding HD clarity and color. Plus, with a 3D TV, you can enter the amazing world of HD 3D. For the highest-quality HD picture available today and digital video recording, take a look at the HD DVR receiver.

DIRECTV

- Watch and schedule recordings on your HD DVR with Whole-Home service.
- Customize your channel guide to show only those channels you're subscribed to.
- Choose your screen format: full screen, stretched, letterbox, pillar box, or crop mode. Up to 1080i picture output.
- Text search lets you find shows just by entering title, person, channel or keyword.
- Automatic Power Saving mode: Receiver goes into standby after 4 hours of inactivity.
- Get real-time scores of any major game at the press of a button.
- Search the channel guide for shows up to seven days in advance.

311 Digital Satellite Receiver

dish NETWORK



Receiver

- NEW! Open TV offers a new improved Electronic Program Guide and instant weather updates, more interactivity on the way.
- On-screen Program Guide with complete program listings
- Page-At-A-Time Scrolling in on-screen Program Guide
- Interactive information "soft keys" in the menu explain the feature functions
- On-screen transparent channel and program information banner
- 4 user defined Favorites Lists
- Closed caption support
- Alternative language support
- Pay-per-view on-screen purchase summary

Output Connectivity

- SVHS Output jack
- 1 set RCA-type audio/video output
- Off-air antenna input (F-connectors)
- 2400 baud internal modem/phone jack

Remote

- One Infrared (IR) 4-component universal remote control - Can be programmed to operate (via IR) up to three additional components.

TV1 Connections

- 1 set RCA-type audio/video outputs
- 1 S-video output
- 1 RF modulated output (channel 3/4)
- 1 TV antenna/cable input

ADTEC Digital

edje4111 Digital Media Player

- Play AVC/H.264 or MPEG-2 HD: Step up to stunning playback of high denition AVC/H.264 and MPEG-2 media.
- Automatically Scale SD to HD: Play both SD and HD content with the same player which automatically sizes video with advanced scalar algorithms to the desired output resolution up to 1080P60.
- Control Playout: The edje HD includes a built in command interface and a *NEW* web-based control interface (BETA) to congure and control your device.
- Tune into IPTV Networks: Tune in and decode IP Multicast HD content with fall-back playout to stored content.
- Synchronize Playback: Deploy multiple players on the same network and get synchronized playback of your content.

signEdje Digital Signage Player

- Play AVC/H.264 or MPEG-2 HD:
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- Tune in and decode IP Multicast HD content with fall-back playout to stored content.
- Synchronize Playback:
- Deploy multiple players on the same network and get synchronized playback of your content.

CILUTIONS
DIGITAL MEDIA BRIDGE

Powerful Performance And Reliability
Cilutions DMB Media Player offers superior digital signage software capabilities and exceptional Full HD video quality within solid-state and hard drive set-top box platforms. These players deliver the absolute highest standard of reliability and affordability.

Easy To Use, Sophisticated Features
Full HD 1080p video, Live HDTV, scrolling text and RSS feeds with advanced interactivity options. With Cilutions digital signage software you get powerful results. Skip the digital signage learning curve with Cilutions easy-to-use features and simple screen authoring tool to build multi-zone screen layouts and more. Captivate your audience with dynamic integration and engaging interactive controls.

Signage, All Inclusive
Cilutions DMB Screen Builder application offers an easy way to create and build screen presentations. With a wide range of networking options available for each media player, you can manage your network of digital signage screens no matter where they are located. You can even use Cilutions Hosted Service toremotely update your Internet-based digital signage media players. Cilutions offers the most cost-effective powerful, digital signage solution available today.

compix

ConverG1

Single Program Digital SD/HD Character Generator

- Icon-based drag-and-drop tools
- 260+ effects including roll, crawl and reveal
- Multilingual support
- Intuitive GUI with WYSIWYG layout
- Use upstream or downstream of switcher
- Logo generation with optional NewsScroll - up to two data crawls automatically updated from text files or RSS feeds
- Automation and third-party interfacing capability via optional AutoCast application, for automated and semi-automated use.
- Free offline graphics license with registration
- Pre-assembled, pre-configured turnkey systems
- Includes GenCG, Scheduler Suite, 4,000 true type fonts, 100 backgrounds, 100 textures and pre-built templates

Compact CG

Brander & Logo Generator Character Generator

- Uses same applications as full sized systems
- Broadcast quality video
- Active video input bypass relay
- Icon-based drag-and-drop tools
- 260+ effects including roll, crawl and reveals
- Multilingual support using Windows IME
- Logo generation with optional NewsScroll software with RSS feeds
- Automation and third-party interface capable via optional AutoCast application.
- Pre-assembled, pre-configured turnkey systems
- Free offline graphics license with registration

CynerG2

Dual Program Digital SD/HD Character Generator

- Intuitive GUI with WYSIWYG layout
- 260+ effects including roll, crawl and reveal
- Multilingual support
- Icon-based drag-and-drop tools
- Use upstream or downstream of switcher
- Logo generation with included NewsScroll - up to two data crawls automatically updated from text files or RSS feeds
- Automation and third-party interfacing capability via optional AutoCast application, for automated and semi-automated use.
- Free offline graphics license with registratio
- Pre-assembled, pre-configured turnkey systems
- Includes GenCG, NewsScroll, Scheduler Suite, 4,000 true type fonts, 100 backgrounds, 100 textures and pre-built templates

DSE24 HD Digital Signage Encoder

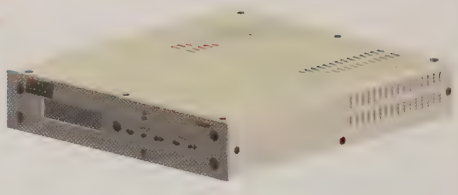
DRAKE

Applications

- Digital Signage
- Commercial B2B
- Health Care
- Government/Military
- Cable TV Networks

Benefits

- Supports 480i, 480p, 720p and 1080i resolutions
- MPEG1, Layer 2 audio (MP2)
- A frequency agile output to1000MHz and +45dBmV output level insure simple trouble free integration onto existing networks



DSE2 Plus Dual HD Digital Signage Encoder with Multiplexed QAM Output

- Receives High-Resolution Component, VGA, or HDMI (non-HDCP content-protection) from two separate video sources
- Digitally Encodes to MPEG2 or MPEG4/H.264
- Encodes to resolutions of 480i, 480p, 720p, or 1080i
- Audio Encoding to Dolby® Digital or MPEG1-Layer2
- Supports Closed Captioning
- GUI-based Remote Network Control and Monitoring
- Desk Mount instead of Rack Mount available

DV4 HD

DV4 H5

DV4 HD HD Digital Signage System

- Like our other Digital Sign Players, the DV5 Series Digital Signboards Play PowerPoint®
- Stills, Jpegs, and Mpg Video
- The System includes 400 + PowerPoint® Slides ready for your customization with text
- You can schedule your presentations as an endless loop or as a detailed weekly schedule
- by day of week and time of day.
- It also comes with a user friendly (two step) PC interface
- And standard Wi-Fi capability makes for easy installation
- The unit is fully network capable for both LAN & WAN
- You can control multiple sign boards remotely through VMC's Server
- We offer a free weekly webinar training so you will definitely take full advantage of the systems features.

DV4 H5 Digital Signage Player

- 400+ PowerPoint® background slides ready for you to add text
- Ability to easily add your own PowerPoint® slides, images or video to a playlist
- Easy to use sign management software (PC interface)
- Sign Manager software converts .ppt files to still images for playback
- Segment the screen by using one of 12 available templates
- Schedule each screen segment and crawl lines independently by Time of Day and Day of Week or repeating loop
- Display live video with your presentation
- Built-in remote access by LAN or Internet vai IP address
- Optional Wi-Fi feature allows for easy wireless installtion
- Remote Content Management via VMC's Internet Upload Service
- Solid state circuitry for long life and dependability
- 4 GB Flash Memory comes standard. (Memory upgradable to 64 GB)
- Unequaled service and support with live internet training every Thursday

VMC

DV5-15 15.6" SD Digital Signboard

DV5 Wireless Digital Signage Player

- Like our other Digital Sign Players, the DV5 Series Digital Signboards Play PowerPoint® Stills, Jpegs, and Mpg Video
- The System includes 400 + PowerPoint® Slides ready for your customization with text
- You can schedule your presentations as an endless loop or as a detailed weekly schedule by day of week and time of day.
- It also comes with a user friendly (two step) PC interface
- And standard Wi-Fi capability makes for easy installation
- The unit is fully network capable for both LAN & WAN
- You can control multiple sign boards remotely through VMC's Server
- We offer a free weekly webinar training so you will definitely take full advantage of the systems features.

C9 Networks

C600/C800/C900 Series DOCSIS 1.0

Cable Modem Terminating System

DC9 Networks provides a highly integrated, low maintenance & high performance Cable Modem Termination System (CMTS) at the lowest prices in the industry. This solution is available in a 2U rackmount chassis:

- CMTS with 1 Down Stream & 1 Up Stream channels
- CMTS servers like DHCP, TFTP & ToD.
- Web server for local & remote Configuration and Management
- Subscriber service activation and de-activation

C3000 Series DOCSIS 3.0

Cable Modem Terminating System

C9 Networks, Inc provides an all in one DOCSIS 3.0 Cable Modem Termination System (CMTS) for high bandwidth applications. This system is DOCSIS standards compliant and also supports channel bonding up to 8 Downstream(DS) channels and 4 Upstream (US) channels. It can operate with all DOCSIS 3.0 Cable modems and is backwards compatible with DOCSIS 2.0 Cable modems.C9 Networks has focused on small/mini-CMTS for the last12 years. C9 was the first company to make an integrated single box CMTS solution. The product is easy to use, user-friendly and cost-effective. The all-in-one solution reduces the operational and maintenance cost for the cable operator.

PICO DIGITAL™

miniCMTS200a

Mini Cable Modem Termination System

Pico Digital's miniCMTS supports up to 400 DOCSIS cable modems (max. 250 DOCSIS 3.0 + 150 DOCSIS 2.0 or 400 DOCSIS 2.0) and offers 16 downstream bonded channels giving a possible 800Mbps downstream data delivery and 120Mbps Upstream data delivery. The miniCMTS200a has an extensive web interface for configuration, management and debug.

To deploy services using the miniCMTS you need to be able to set the IP addresses and manage the subscribers, to do this a separate server is required, this can either be part of your existing back office infrastructure if you are deploying multiple miniCMTS's or a local server.

Blonder Tongue

CMTS Cable Modem Terminating System

- DOCSIS & Euro DOCSIS CMTS in 1 Rack High Chassis Unit
- Scalable Design supports up to 8 upstream Channels
- Traffic Forwarding Performed via Layer-2 Transparent Bridge
- Integrated Advance Command Line Interface Permits Easy Programming
- Remotely Manageable & Upgradeable with SNMP & Telnet Access Capabilities

C1G DOCSIS 3.0
Cable Modem Terminating System

The C1G CMTS comes in a compact 38.1cm x 22.2cm x 1RU (15 in x 8.75 in x 1RU) chassis that provides operators the maximum flexibility in deploying cost-effective solutions. The C1G is a complete CMTS solution with 1 downstream QAM port, 2 DOCSIS upstream ports and 2 GbE (SFP) network ports.

The C1G can scale from a 2DS x 2US to an 8DS x 8US configuration as your subscriber base grows. Channels can be added remotely by simply activating license keys.

The C1G supports industry standard Comm and Line Interface (CLI) and SNMP for configuration and management. Operational features such as show cable modem, spectral management, CPU and memory resource reporting and user privilege management are available. It also comes with factory-installed basic configuration to bring up GigE ports and CLI on bootup.

The C1G functions as a Layer3 routing device. It supports static as well as dynamic routing protocols. For route redundancy, multiple default routes can be configured. Layer 2 bridgin, VLAN, RIP, BGP, OSPF, IS-IS, PIM-M and L2VPNs are supported.

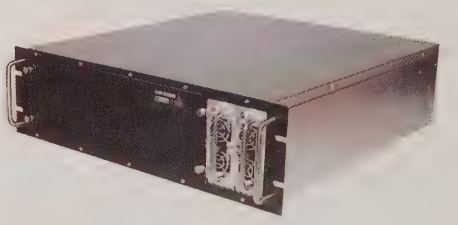
Extensive IP features such as DHCP Relay and option 82, multiple DHCP servers, proxy ARP, IGMP snooping, IGMP v2 and v3 are available.

C2200 DOCSIS 3.0
Cable Modem Terminating System

The Casa Systems C2200 Cable Modem Termination System (C2200) is a new class of cable edge device that combines a third generation DOCSIS CMTS and an MPEG video Edge-QAM in a single compact 1RU platform.

The broadband access over cable market has experienced two generations of DOCSIS CMTS. Most of the products on the market today are either first generation CMTS or second generation CMTS that can be characterized by fixed downstream to upstream ratios, instantaneous bandwidth per subscriber limited to a single RF channel, very low downstream channel density per rack unit, and high cost per unit bandwidth.

The legacy CMTS does not have any MPEG video processing capability and thus makes it necessary to implement two parallel access networks for MPEG video and IP data. With those limitations, the legacy CMTS is not economically viable in the new market of high bandwidth applications such as IPTV or IP video delivery and is not competitive with other broadband access methods such as FTTX.



C3300 DOCSIS 3.0
Cable Modem Terminating System

The Casa Systems C3200 Cable Modem Termination System (C3200 CMTS) is a new class of cable edge device that combines a third generation DOCSIS CMTS and an MPEG video Edge-QAM in a very high density, and high availability 3RU platform.

As a third generation CMTS, the C3200 has several unique capabilities beyond DOCSIS 3.0 features.

The revolutionary DOCSIS bandwidth capacity and cost per bit of DOCSIS bandwidth of the C3200 provides an unprecedented opportunity for cable operators to cost effectively provision high-bandwidth IP services such as IPTV or video-over-IP and interactive gaming in addition to traditional broadband access and VoIP services.

The integrated MPEG video capacity of the C3200 provides cable operators the flexibility to offer MPEG or DVBbased broadcast digital cable TV, video-on-demand (VOD), and interactive services in the same platform. The flexibility, multi-functionality and economics of the platform eliminate the need to deploy multiple parallel systems for MPEG TV, IPTV bypass and DOCSIS broadband access. The following sections detail the unique capabilities of the C3200.

CABLE SIGHT™

DOXcontrol Cable Modem Provisiong System

CORE Provisioner:

Robust, Intuitive & Affordable for Cable Operators

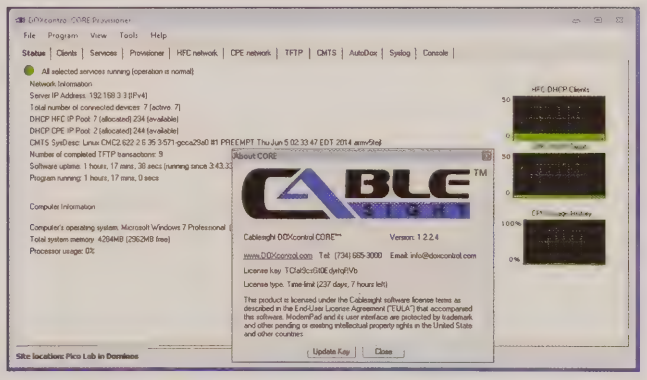
CORE Provisioner is a part of the **DOXcontrol** suite of DOCSIS software developed by Cablesight. It is a complete, integrated software solution that allows cable operators to administer and provision both cable modems and customer premise equipment in their DOCSIS broadband networks.

DOXcontrol CORE's graphical user interface (GUI) is easy to learn and use. Its intuitive, Windows-based design allows for quick and efficient management of the CMTS and CM/CPE networks. It has been developed entirely in-house and does not rely on any third-party applications, software components, plugins or scripts.

DOXcontrol CORE includes integrated DHCP/ TFTP/ TOD servers. The provisioner database is user-definable and existing customer information is easily importable. **DOXcontrol CORE** can also synchronize into existing billing software and supports database engines such as MySQL and Microsoft SQL Server. Several affordable licensing plans are available to meet different system sizes and budgets. All DOCSIS levels are supported.

The **DOXcontrol** suite includes several software applications such as **ModemPad** (modem config file editor), **MIB Browser** (file viewer) and an RF monitoring system that is presently under development. We are committed to continuous improvement and are guided by the changing needs of cable operators worldwide.

In addition to software, we offer turnkey solutions including CMTS systems, cable modems and DOCSIS network/RF engineering support.



REQUIREMENTS

SERVER SPECIFICATIONS

4GB of RAM or more
2 Ethernet ports (100/1000 Mbps)
Serial port (RS-232 COM)
Dual Core Processor or better

OPERATING SYSTEMS

Windows XP, 7, 8, 8.1
Server 2003, 2008, 2012
(32-bit and 64-bit compatible)

CMTS COMPATIBILITY

DOCSIS & EURODOCSIS
1.0 to 3.0 is supported, including:

Cisco uBR7111, uBR7114, uBR7246VXR, uBR10012

ARRIS CMTS1000/ 1100/ 1500 and Cadant C3, C4c, C4

Motorola BSR-1000, BSR-2000, BSR-64000

CASA C1G, C2200, C3200, C10G, C100G

Terayon BW3200, BW3500

Bigband (ADC) Cuda Series

Pico Digital MiniCMTS200a

Any CMTS with is compatible with DOCSIS or EURODOCSIS

AJA VIDEO SYSTEMS

RH10UC

SD-SDI to HD-SDI Upconverter or HD Frame Synchronizer

The RH10UC is a 10-bit SD to HD up-converter or HD Frame Synchronizer. Using motion-adaptive de-interlacing and high quality digital scalers, the RH10UC provides excellent Broadcast quality HD video from SD sources. Output HD video is selectable between 720p and 1080I formats. 4:3 to 16:9 aspect ratio conversion is selectable between 4:3 pillarbox, 14:9 crop, 16:9 anamorphic, and 16:9 zoom. Input SD ITU Rec. 601 color space is converted o ITU Rec. 709. Additionally, the RH10UC can operate as a standalone HD-SDI Frame Synchronizer. The RH10UC is compatible with AJA's FR1 or FR2 frames.

- Broadcast-Quality 10-bit SD to HD Upconverter
- Motion-adaptive de-interlacing
- Frame Synchronizer function with Genlock input
- Selectable aspect ratio conversion
- Selectable HD output format
- HD-SDI stand-alone Frame synchronizer mode
- Passed embedded audio from SD-SDI to HD-SDI
- 5-year Warranty

RD10MD2

Dual HD to SD Downconverter

The RD10MD2 is a 10-bit broadcast-quality Dual HD down converter. Channels 1 and 2 are fully independent. Channel 1 has 2 re-clocked HD/SD SDI outputs and channel 2 has 1. Both Channel 1 and 2 have 2 down converted outputs, which can be independently configured as SDI or composite analog. All HD formats are supported including 24p/psf with 3:2 pulldown. The SD output can be formatted for either 4:3 or 16:9 monitors. For 4:3 monitors both Letterbox and Crop modes are supported. The RD10MD2 is also dual-rate (HD/SD) and will support SDI inputs. The RD10MD2 is compatible with AJA's FR1 or FR2 frames.

- Dual Independent channel HD to SD down conversion
- Re-clocking HD/SD-SDI input loop outputs
- Multi-Standard HD-SDI or SDI Input
- SDI and Composite Analog Outputs
- 3/2 Pulldown for 23.98/24 Hz p/psf inputs
- Full 10-bit Data Path, Multi-point Interpolation
- Configurable for 16:9 or 4:3 Monitors
- Letterbox and Crop Modes
- 4:3 Safe-Zone Graticule
- 5-year Warranty

Hi5

HD/SD-SDI to HDMI Video & Audio Converter

The HI5 converts HD/SD-SDI to HDMI for driving HDMI monitors. Embedded 8 channel HD/SD-SDI audio is supported in the HDMI output allowing a convenient single cable audio/video connection. The Hi5 provides 2 channel RCA style audio outputs for separate audio monitoring if needed. The HI5 also provides a looping HD/SD-SDI output useful for connecting additional equipment, or for "daisy chaining" multiple monitors to the same HD/SD-SDI source.

- HD/SD-SDI to HDMI
- Full HDMI support including embedded audio
- Additional 2 Channel RCA jack audio output
- Equalized looping HD/SD-SDI output
- No configuration necessary
- HDMI V1.2 standard
- 1m HDMI cable included
- DWP-U-R1 Power Supply Included
- 5-year warranty

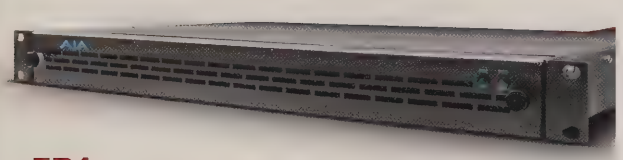
HA5

HDMI to HD/SD-SDI Video & Audio Converter

The HA5 converts HDMI to SDI or HD-SDI. Two channels of HDMI audio are embedded into the HD/SD-SDI output allowing a convenient single cable audio/video connection. The HA5 provides two SDI/HD-SDI outputs and supports long HDMI cables on the input. The HA5 is useful for connecting HDMI cameras to HD/SD-SDI equipment.

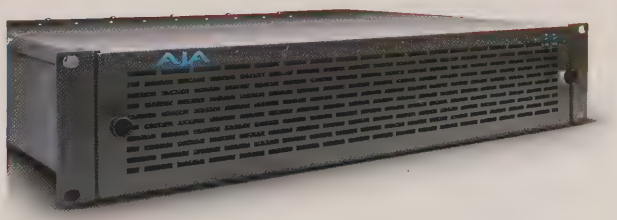
- HDMI to HD/SD-SDI
- Full HDMI support including embedded audio
- Equalized HDMI input supports long HDMI cables up to 30m, 24 gauge
- PLL clock filtering for low jitter HD/SD-SDI outputs
- Lock LED shows type of input source, SD (green) or HD (red)
- HDMI V1.2 standard
- 1m HDMI cable included
- DWP-U-R1 Power Supply Included
- 5-year warranty

AJA VIDEO SYSTEMS



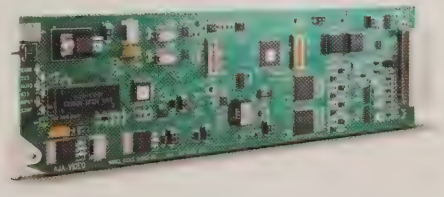
FR1 One RU Rack Mount
Frame & Power Supply, 4 Slot

- 1 Rack Unit Mounting Frame
- 4 Module Capacity
- Multiple Fan Forced Air Cooling
- Optional Redundant Power Supplies
- Power Supply Monitoring
- Frame Reference Input BNC
- UL, CSE, CE Certification
- Universal Input 90-240 VAC 50 Watt Power Supply
- 5-year Warranty



FR2 Two RU Rack Mount
Frame & Power Supply, 10 Slot

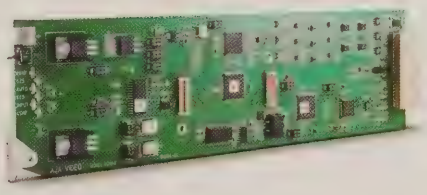
- 1 Rack Unit Mounting Frame
- 4 Module Capacity
- Multiple Fan Forced Air Cooling
- Optional Redundant Power Supplies
- Power Supply Monitoring
- Frame Reference Input BNC
- UL, CSE, CE Certification
- Universal Input 90-240 VAC 50 Watt Power Supply
- 5-year Warranty



R20CE SD-SDI to Component & Composite
Analog Converter, 10-bit

The R20CE SD-SDI to Analog Video Converter provides excellent-quality 10-bit conversion of SD-SDI to both component and composite video formats simultaneously. The 4 analog outputs are user configurable to NTSC/PAL, Y/C (S-Video), YPbPr (SMPTE, EBU-N10), Betacam, or RGB. The component and composite outputs are completely independent including optimum chroma filtering for each and independent pedestal configuration. The R20CE also features an exclusive PLL jitter filter/memory to reduce the effects of SDI jitter on the output analog video. This feature, along with the precision 4x oversampled D/A filters, provides the highest-quality analog outputs- including very low phase noise in composite outputs. The optional FSG (Frame Sync/Genlock) Module allows genlock to an external reference with full timing adjustment. Without the FSG Module, the reference input provides color frame timing.

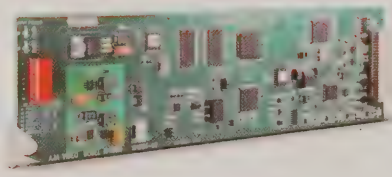
- Excellent-Quality 10-bit Universal D/A Conversion
- Full 10-bit Data path, 4x Oversampling
- SD-SDI Input, 2 Re-clocked, Loop-Thru SDI Outputs
- Simultaneous Component and Composite Analog Outputs
- YPbPr, Betacam, or RGB Component Formats
- NTSC or PAL Composite Formats
- Digital Noise Reduction
- Optional Frame Synchronizer Allows Genlock to Reference, Full Timing Adjustment



R20AD Component or Composite
Analog to SD-SDI Converter, 10-bit

The R20AD provides excellent-quality 10-bit conversion of component or composite analog video to SD-SDI with EDH. The R20AD accepts YPbPr (SMPTE, EBU-N10), Betacam, or RGB component inputs and NTSC/PAL or Y/C (S-Video) composite inputs. The R20AD features a 4 Line Adaptive Comb Filter for high quality decoding of composite sources. The comb filter can be switched to 2 line, or notch modes for minimum delay requirements. The R20AD also accommodates the optional FSG\ card (Frame Sync) for synchronizing the output video relative to an external reference. NTSC/PAL configuration is automatic. Video format, AGC, H/V blanking, and pedestal are all user configurable.

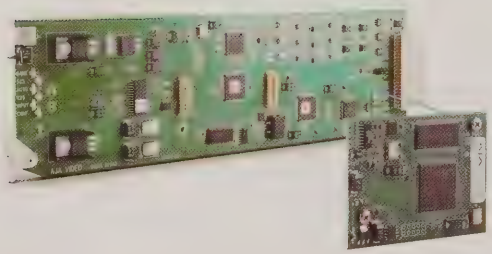
- Excellent-Quality 10-bit Universal A/D Conversion
- Component, Composite or Y/C Analog Input
- 4 Line Adaptive Comb Filter
- Full 10-bit Data path, 2x Oversampling
- YPbPr, Betacam, or RGB Component Formats
- NTSC or PAL Composite Formats
- AGC Mode
- 4 SDI Outputs with EDH
- Color Bar Generator
- Optional Frame Synchronizer
- 5-year Warranty



RH10MD HD Downconverter & DA

The RH10MD is a 10-bit broadcast-quality HD downconverter and HD/SD-SDI distribution amplifier. There are 4 re-clocked HD/SD-SDI outputs and four down-converted SD outputs. The SD outputs can be individually configured as analog or SDI - analog can be component or composite. All HD formats are supported including 24p/psf with 3:2 pulldown. The SD output can be formatted for either 4:3 or 16:9 monitors. For 4:3 monitors both Letterbox and Crop modes are supported. The RH10MD is also dual-rate (HD/SD) and will support SDI inputs. 4 Ch AES embedded audio is passed through to the SDI outputs. The RH10MD is compatible with AJA's FR1 or FR2 frames.

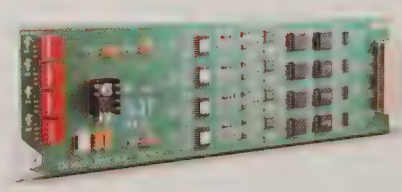
- Broadcast-Quality 10-bit HD Downconverter
- Re-clocking 1x4 HD/SD-SDI DA
- Multi-Standard HD-SDI or SDI Input
- SDI and Component/Composite Analog Outputs
- 3/2 Pulldown for 23.98/24 Hz p/psf inputs
- Full 10-bit Data Path, Multi-point Interpolation
- Configurable for 16:9 or 4:3 Monitors
- Letterbox and Crop Modes
- 4:3 Safe-Zone Graticule
- Passes embedded audio from HD-SDI to SD-SDI
- 5-year Warranty



FSG Frame Sync/Genlock Module

The FSG Frame Sync/Genlock Module is an optional upgrade to AJA's R20 series encoders and decoders. The FSG Module provides user adjustable output timing relative to an external sync reference. Also, a delay mode provides adjustable delay with respect to the video input. In addition to the frame sync and delay functions, when installed on AJA R20 series encoders, the FSG Module allows the encoder to genlock to an external reference.

- Optional Frame Sync R20CE, R20D, and R20AD
- External or Input Timing Reference
- Full Output Timing Adjustment
- Passes Vertical Interval Data
- 10-bit Data Path



R44E Four Channel SD-SDI to Composite Analog Converter

The AJA Video R44E provides four composite analog monitoring outputs from four separate SD-SDI inputs. Each channel has a separate D/A converter with a 10-bit DAC and 8-bit broadcast encoding. Values below black and above white are not clipped. Each channel has a test pattern generator with separate user selectable blanking controls. The R44E also features automatic NTSC or PAL configuration.

- 4 Channel SD-SDI to NTSC/PAL Converter
- 4 Separate SD-SDI Inputs
- 4 Separate Composite Analog Outputs
- Built In Test Pattern
- Configurable Pedestal
- R44E allows 40 Channels of Conversion in 2 RU

R20DA SDI Distribution Amplifier

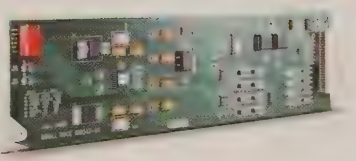
The R20DA is a multi-format, 1x8 SDI Distribution Amplifier. The SDI input is re-clocked and equalized to 300 meters of cable. In addition, the multi-standard feature allows the R20DA to automatically adapt to 143, 177, 270or 360 Mb SDI inputs.

- 4 Re-clocking, SDI Input
- SDI Inputs
- 8 SDI Outputs
- Multi-Standard

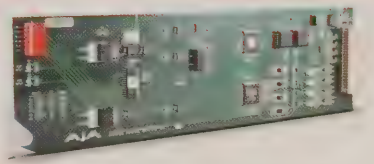
RD20DA Dual Channel SD-SDI Distribution Amplifier

The RD20DA is a multi-standard, 2-channel, 1x4 and 1x3 SD-SDI Distribution Amplifier. The SDI input is re-clocked and equalized to 300 meters of cable. In addition, the multi-standard feature allows the RD20DA to automatically adapt to 143, 177, 270, or 360 Mb SDI inputs.

- 2 Channel Re-Clocking, Equalizing SDI Distribution Amplifier
- 2 Separate SDI Inputs,
- 1x3, 1x4 SDI Outputs
- Multi-Standard: 143/177/270/360 M2



AJA VIDEO SYSTEMS



R5CE 1x4 SD-SDI DA & Component/Composite Analog Converter

The R5CE is a SD-SDI distribution amplifier and universal monitoring D/A converter. The R5CE provides four equalized and re-clocked SDI outputs along with four analog monitoring outputs. The four analog outputs can be configured to a wide variety of formats including NTSC/PAL, Y/C (S-Video), YPbPr (SMPTE, EBU-N10), Betacam or RGB. A PLL jitter filter/memory reduces the effects of SDI jitter on the analog outputs. An exclusive feature of the R5CE is a 10- to 8-bit dithering circuit which removes contouring in the analog outputs. Additionally, the R5CE features user selectable pedestal and H&V blanking.

- Universal Monitoring SD-SDI DA
- SD-SDI Input
- 4 Re-clocked SD-SDI Outputs
- 4 Component/Composite Analog Outputs
- YPbPr, Betacam, or RGB Component Formats
- 10-bit to 8-bit Dithering
- PLL Jitter Filter
- Built-in Test Pattern

R10CE 1x4 SD-SDI DA & 10-bit Component/Composite Analog Converter

The R10CE is a SD-SDI distribution amplifier and universal monitoring D/A converter. The R10CE provides four equalized and re-clocked SDI outputs along with fouranalog monitoring outputs. The four analog outputs can be configured to a wide variety of formats including NTSC/PAL, YC (S-Video), YPbPr (SMPTE, EBU-N10),Betacam or RGB. A PLL jitter filter/memory reduces the effects of SD jitter on the analog outputs. The R10CE fits the AJA R-Series Rack Mount Frames, and is compatible with other standard racks.

- Universal Monitoring SDI DA
- SD-SDI Input
- 4 Re-Clocked SD-SDI Outputs
- 4 10-bit Component/Composite Analog Outputs
- YPbPr, Betacam, or RGB Component Formats
- PLL Jitter Filter
- Built-In Test Pattern

MONROE ELECTRONICS

R189 Analog / Digital EAS Controller

- Up to four independent network connections
- Cost Effective EAS solution for both Analog and Digital EAS(including DVS-168 and SCTE-18 w/ Advanced DSG)
- Remote Access through any Internet Browser (No Special PCSoftware Required)
- Optional MPEG2 Encoder for Simulcast
- IPTV Compatible via EAS-NETTM Software• Up to 3 internal AM/FM/NOAA Radios• Stores 1,000's of Events including Audio Files• Built in Character Generator• Fully Upgradeable via the Internet - Never Out of Date

Blonder Tongue

ASI-4 1 x 4 ASI Splitter

The ASI-4 is a 1:4 active ASI splitter. It is designed to complement digital headend products that can utilize an ASI input for EAS (Emergency Alert System) applications, or any application requiring splitting of an ASI signal. The ASI-4 can be deployed in a daisy-chain configuration to provide additional outputs as required. Modular design allows installation of up to six units in 2RU.

Quartet 3G Ready ASI & HD/SD-SDI Switching Distribution Amplifier

ADTEC Digital

- Ideal for supporting encoder redundancy without a DTA
- Automatic or manual switching
- Auto rate detection
- Inputs (2):
  (A) Primary input
  (B) Secondary input used as a backup
- Front panel LEDs (2):
  Power - Green indicates powered up
  Signal - Green indicates a valid signal is being passed through the system.

Modes selectable via external RST (2):

-When LEFT and CENTER terminals are shorted together the PRIMARY signal passes.
-When the RIGHT and CENTER terminals are connected the SECONDARY signal passes.
-When any of the previous two modes are selected the unit will not use the redundancy backup signal. When the unit is not in manual override mode it uses the secondary signal as a backup.

opticomm emcore

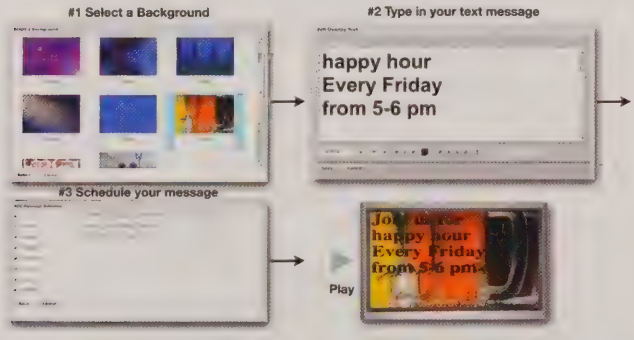
Genesis XD Multimedia Matrix Switch for 4K UHD & Beyond

EMCORE's Genesis XD ("GXD") is an all-in-one multimedia matrix solution that converts, scales, switches and transports uncompressed video, audio and data from small to large systems. GXD's massive 40 Gbps backplane accommodates uncompressed 4K UHD resolutions now and 8K resolutions later, allowing it to serve as a staple for Installers that want a flexible and reliable connectivity platform.

GXD is a non-blocking, full cross-point matrix switch that accepts and converts both analog and digital video signals, including HDMI 1.4b with HDCP (known as HEAC - HDMI, Ethernet, Audio, Control), Display Port, DVI, VGA, Component and 3G HD-SDI. Remote locations can be connected using multimode and singlemode fiber or CATx using HDBaseT technology. GXD can be controlled via RS-232, Ethernet (locally or remotely through the G-Box) or by front panel touch screen. The front panel touch screen also serves as a video monitor to preview any connected video source.

VMC

Now anyone can create high impact presentations! As easy as 1, 2, 3 Play



VM4 HD Video Messaging System

- HD and analog compatibility
- Scheduling by time/day/date
- Adjustable crawl speed
- Full color spectrum for all text and backgrounds
- Font, color & size by character
- Dozens of Available Templates for segmenting the screen
- Access by LAN or WEB (Network Ready)
- Easy to use intuitive User Interface
- Solid State Circuit
- Up to 64 GB Memory

sierravideo
A KRAMER ELECTRONICS COMPANY

SMP16 16-Input Multi-Viewer Family

- Compact 1RU Frame.
- Modular Format Allows Future Expansion.
- Multi-Format Input Cards - 3G HD-SDI, Composite Video or HDMI.
- Expandable From 4 to 16 Inputs In Increments of 4.
- Dual Independent Outputs - Each output has both HDMI and HD-SDI in parallel.
- Max Input Resolutionn - 1080p, 1920x1200 & 3G HD-SDI.
- Max Output Resolution - 4K.
- Control & Setup Via LAN - The Redwood has a built in Browser to enable easy set up.
- Front Control Panel - Fr recall of pre-set configurations.
- Hot Swappable Cards
- Intelligent Fan Control - For quiet operation.
- Alarms - For video/ audio and metadata.
- GPI & Tally Support.
- Under monitor display support including dynamic UMD when paired with Sierra router.
- Audio Metering of up to 16 channels of embedded audio with balistically correct scales Dolby E monitoring option (Via VIP-3D)
- Frame option with Internal 16x16 HD-SDI router.
- Discrete Analog & Digital audio input options
- Redundant Power Supply (RPS) - Optional.
- 5 year return to base warranty

ADTEC Digital

DPI1200 Digital Program Insertion Ad Server

Digital Program Insertion Ad Server Designed to concurrently insert up to twelve MPEG2 or AVC programs into a digital cable or television service, the DPI-1200 Ad Server offers the absolute highest transport standards required for broadcasting. The DPI-1200 imports programs to its core, processes and multiplexes them in preparation for their delivery via ASI output to a single or multiple ad splicers and seamlessly interfaces with Adtec's adVantage Enterprise Management Solution. The DPI-1200 interoperates with ad insertion systems from CCOR and SeaChange as well.

TOTE VISION®

LED-500X3-3GSDI

Three 5" Monitors in 3RU

Functional and beautiful, this new generation model includes three LED-backlit, LCD monitors in a rack mount configuration. Each 5" monitor includes a native 3G-SDI input signal that is SMPTE 424M compliant, handling bit-rates of 2.97Gbit/sec which supports 1080p video up to 60 frames per second. This model is an ideal solution for broadcast studio environments that distribute and monitor VOD 1080p streams.

LED-430X3-3GSDI

Four 4" LED Monitors in 3RU

Totevision's LED-430X4-3GSDI includes four LED-backlit, LCD monitors in a rack mount configuration. Each 4" monitor includes a native 3G-SDI input signal that is SMPTE 424M compliant, handling bit-rates of 2.97Gbit/sec which supports 1080p video up to 60 frames per second. This model is an ideal solution for broadcast studio environments that distribute and monitor VOD 1080p streams..

LED-1906HDTR

Color HD LCD Monitor

- Standard 19" Wide Rack Mount
- Only Takes Up 8 Rack Spaces (14")
- Built In QAM and 8VSB (ATSC) Tuner
- Built In Stereo Speakers
- 18.5" TFT Active Matrix Screen
- 3D & 3D Image Processing
- 16x9 Aspect Ratio Wide Screen
- **Inputs:**
  2x Composite Video
  1 Component, (Y,Pb,Pr)
  1 VGA
  3 HDMI
  1 RF (F Female)
- **Outputs:**
  1 Composite Video
  1 L/R Audio
  1 3.5 mm Earphone

AIO-7000

T70" LED Touch Screen TV/PC

This multi-functional video monitor includes an ATSC/QAM TV tuner and integrated PC with multi-touch capabilities. Ideal for use in training and education environments, in broadcast production, or in any application that benefits from onboard computing that utilizes touch screen functionality.

- Full HD (FHD) display - 1080i/p with no downscaling
- LED backlight - brighter picture using less power
- ATSC/QAM TV tuner (10 bit / 120Hz)
- 3D adaptive comb filter
- Intel Core i5 processor with 4GB DDR3 memory
- Multi-touch screen panel (IR transmission)
- Wide-viewing angle
- Wall mount bracket
- IR remote control

AM Series Agile Modulator

Model	Stock #	Description
AM-60-860	59415A	Frequency-agile Audio/Video Modulator, +60 dBmV, 54-860 MHz (NTSC)
AM-60-860-BG	B59415A	Frequency-agile Audio/Video Modulator, +120 dBµV, 47-860 MHz (PAL)
AM-60-806	59419	Frequency-agile Audio/Video Modulator, +60 dBmV, 54-806 MHz (NTSC)
AM-60-550	59416	Frequency-agile Audio/Video Modulator, +60 dBmV, 54-550 MHz (NTSC)
AM-45-550	59404	Frequency-agile Audio/Video Modulator, +45 dBmV, 54-550 MHz (NTSC)

Options

AM-OPT-02	BNC Video Input Connector
AM-OPT-04	Sub-Band Output (Available with AM-60-550 only)
AM-OPT-05	Integrated BTSC Stereo Audio
AM-OPT-06	SAP Audio/ BTSC Stereo (Available with AM-60-860 only)
AM-OPT-07	Video AGC
AM-OPT-08	Audio AGC
AM-OPT-09	Balanced Audio Input, 600 Ohm (Standard on AM-60-860)

BAVM-860-SAW Audio/Video Modulator

- Meets FCC Docket 21006 Aeronautical
- Frequency Offset Requirements
- Fully Compatible with BTSC Encoded Stereo Audio
- Front Panel Accessible Level Controls for Easy Set-Up and Adjustments
- Low Cost High Performance Channelized Audio/Video Modulator
- AC Convenience Outlet

ZFMSM Series

Agile FM Stereo Modulator

- Rack Mountable - 1 EIA (1.75") Rack Space
- High Performance FM Audio Modulator
- Superior Signal to Noise and Audio
- Separation Performance
- Switchable Mono or Stereo Capability
- Front Panel Level Controls, Rear AC Convenience Outlet

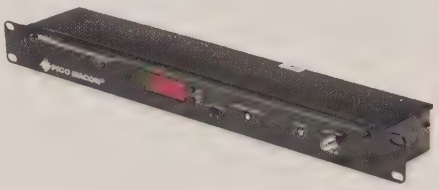
TAMM Agile Mini Modulator PAL Format

- 47-862 MHz Bandwidth
- 105 dBuV Output Level
- Compatible with most mini-mod chassis
- Digital PLL Design for Stability
- Microprocessor Controlled Synthesized Tuning
- SAW (Surface Acoustic Wave) Filter for Superior Adjacent Channel Operation
- Front Panel Controls with Lock Function to Prevent Accidental Changes
- Both Off Air Broadcast Channels and Cable Channels
- 3 Digit LCD Digital Channel Display

PCFM Agile FM Stereo Audio Modulator

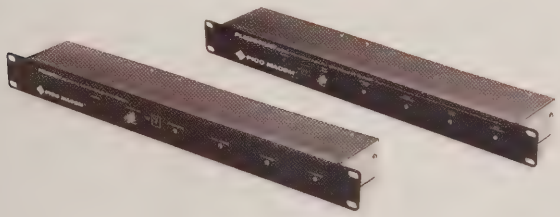
PICO DIGITAL

- 35dBmV minimum adjustable output for optimum carrier to noise performance
- Frequency range 88~ 108MHz (FM Band)
- Agile push-button tuning and digital display for easy frequency selection
- Non-volatile memory for last channel recall in the event of power failure
- Switch-selectable between stereo and monaural operation
- Signal to noise ratio >60dB provides superior sound quality
- Front panel test point for easy RF level system monitoring
- Auxiliary AC outlet for convenience
- UL Approved



PCM550SAW 550 MHz Agile Channelized PLL SAW-Filtered A/V Modulator

PFAM860SAW 860 MHz Sub-Band Extended Agile A/V Modulator



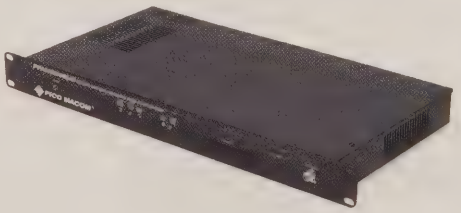
- 55dBmV minimum output for a 64dB inband carrier to noise ratio provides superior picture quality (PCM55SAW)
- 82 Channel frequency range 54~550MHz (CATV 2~13, A1~A5, A~PPP (PCM55SAW)
- 55dBmV minimum output for a 61dB inband carrier to noise ratio provides superior picture quality (PLM860SAW)
- Frequency range 552~860MHz (CATV 79-135) (UHF 14-69) (PLM860SAW)
- SAW filtered IF for superior adjacent channel performance enables drop-in channel expansion
- BTSC Stereo compatible pre-emphasis disable switch provides pass-through for stereo signals
- Front panel controls and test point enable easy setup and monitoring
- IRC and HRC offsets available for frequency settings in systems using offset channels
- Auxiliary AC outlet for convenience
- Optional PAL format channels available
- UL Approved

PFAM550

550 MHz Agile A/V Modulator

PFAM550SUB

Sub-Band 550 MHz Agile A/V Modulator

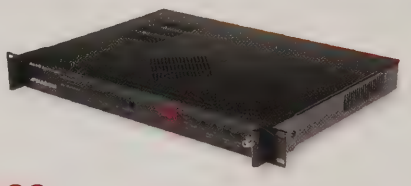


- 60dBmV Mlinimum output for a 64dB inband carrier to noise ratio provides superior picture quality
- 82 Channel frequency range 54~550MHz (CATV 2~13, A1~A5, A~PPP) (PFAM550)
- 89 Channel frequency range 5.75~550MHz (CATV T7~13, 2~13, A1~A5, A~PPP) (PFAM550SUB)
- Sub-band operation enables remote TV origination, making it ideal for institutional cable systems
- Front panel DIP switch-controlled phaselocked loop for solid drift-free output on any channel
- SAW filtered for superior adjacent channel performance enables drop-in channel expansion
- Front panel test point for easy RF level system monitoring
- Composite audio-video IF loop provides compatibility with encoders, ghost cancelers and video-override applications
- IRC and HRC offsets available allow for easy frequency settings in systems using offset channels
- Double heterodyne conversion provides superior spurious harmonic output suppression
- BTSC stereo compatible pre-emphasis disable switch provides pass-through for stereo signals
- UL Approved

PICO DIGITAL

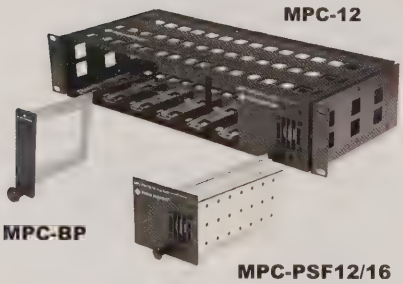
F860 Fixed Modulator Integrated BTSC Stereo (option)

- Re-broadcast quality performance
- Integrated BTSC Stereo (optional)
- 60dBmV minimum adjustable output for optimum carrier-to-noise performance
- Pre-emphasis defeat switch provides easy stereo conversion
- Precision SAW filter for superior adjacent channel performance enables drop-in channel expansion
- Front panel controls and test point enable ease setup and monitoring
- Digital display provides quick channels identification and easy modulation adjustment
- Carrier-to-noise ratio >65dB ensures superior picture quality
- Composite and separate audio and video IF loops allow compatibility with encoders, ghost cancellers, and video override applications
- MPX stereo loop provides encoded stereo input and compatibility with Emergency Alert equipment
- IRC and HRC input and output offset available for frequency setting in systems using offset channels



A860 Agile Modulator Integrated BTSC Stereo (option)

- Re-broadcast quality performance specifications match those of fixed channel modulators
- Integrated BTSC Stereo (optional)
- 60dBmV minimum output for optimum carrier-to-noise performance
- Precision SAW filter for superior adjacent channel performance enables drop-in channel expansion
- State-of-the-art digital phase-locked loop (PLL) design guarantees precise frequency locking for solid drift-free opertaio
- Superior design including automatic band-splitting filters for excellent carrier-to-noise ratio (>65dB)
- Bright LED bar graph provides simple modulation set-up
- Microprocessor tuning control provides digital display with push-button channel selection for ease of installation, configuration and servicing
- Rear panel interfaces accept baseband video and three audio formats to provide maximum installation flexibility



MPC-12 / MPC-12C 12-Slot Universal Mini-Mod Chassis & Power Supply
MPC-PSF12/16 Universal Power Supply Module

- High capacity fully regulated power supply provides the most efficient performance, ensuring reliability over a wide range of environmental conditions
- High efficiency power supply (over 70%) equipped with cooling fan minimizes power consumption and heat dissipation
- Current overload protection prevents damage to system and prolongs power supply life
- Internal fusing circuitry provides current overload protection and precise voltage regulation, preventing component damage

MPCMA SAW Filtered A/V Mini-Modulator

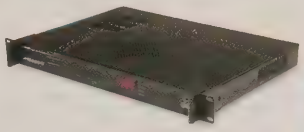
- 45dBmV minimum output for a 66dB in-band carrier to noise ratio provides superior picture quality
- 125 Channel Frequency Range 54~806MHz (CATV 2~13, A1~A5, A~ZZZ, 89~125, UHF 14~69)
- SAW (surface acoustic wave) filtered for superior adjacent channel performance enables drop-in channel expansion
- BTSC stereo compatible pre-emphasis disable switch provides pass-through for stereo signals
- Front panel access controls enables easy setup
- Single-slot design allows up to 12 or 16 units in Pico Macom's MPC-12,
- MPC-12R and MPC-16PS/CS chassis
- IRC and HRC offsets available for frequency settings in systems using offset channels
- Compatible with most manufacturers' mini-modulator chassis
- Optional PAL format channels available
- Nickel plated precision brass threads

MPCM45 SAW Filtered Single Channel A/V Mini-Modulator

- 45dBmV minimum output for a 63dB in-band carrier to noise ratio provides superior picture quality
- 135 Channel Frequency Range 54~860MHz (CATV 2~13, A1~A5, A~ZZZ, 89~135, UHF 14~69)
- Agile microprocessor control enables quick digital push-button channel selection for ease of installation, configuration and improved system uptime
- SAW (surface acoustic wave) filtered for superior adjacent channel performance enables drop-in channel expansion
- BTSC stereo compatible pre-emphasis disable switch provides pass-through for stereo signals
- Three-digit LED display provides quick channel identification
- Non-volatile memory ensures channel programming remains after power loss

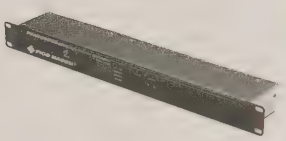
D860 Agile A/V Stereo Demodulator with Sub-Band

PICO DIGITAL



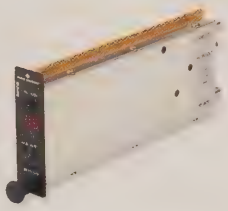
- 132 Channel Input Range 5.75-806MHz (CATV T7-T13 AND 2-125) and TV-69
- Broadcast quality specifications for unparalleled picture quality
- Keyed AGC system provides excellent picture stability
- Quadrature single-tuned audio detection guarantees superior audio quality
- Digital display provides quick channel identification
- Bright LED bar graph provides quick reference of modulation levels
- 45.75MHz composite IF output allows tuner monitoring, encoder, ghost canceling and video override applications
- SAW filtered for precise adjacent channel rejection
- Back-panel switch enables sub-band operation for receiving remote TV origination, making it even more flexible for institutional cable systems
- IRC and HRC input and output offset available for frequency setting in systems using offset channels
- Envelope detection ensures exceptional differential gai and phase

PFAD-900CS Stereo Agile CATV A/V Demodulator



- 125 Channel frequency range 54~806MHz (CATV 2~13, A1~A5, AZZZ, 89~125, UHF 14~69)
- 60dB signal to noise ratio for crisp, sharp picture
- Agile microprocessor control with pushbutton channel selection provides ease of installation, configuration and servicing
- Digital display provides quick channel identification
- SAW filtered for precise adjacent channel rejection
- Non-volatile memory ensures channel programming remains after power loss
- Separate 4.5MHz sub-carrier and MPX outputs for BTSC stereo applications
- 45.75MHz composite IF output allows tuner monitoring, encoder, ghost canceling and video override applications

MPCD Agile A/V Mini-Demodulator

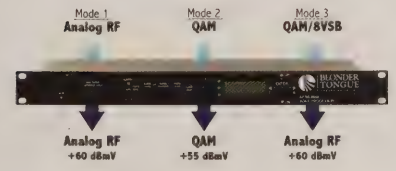


- 125 Channel Frequency Range 54~806MHz (CATV 2~13, A1~A5, A~ZZZ, 89~125, UHF 14~69)
- Agile microprocessor control with push-button channel selection provides ease of installation, configuration and servicing
- SAW filtered for precise adjacent channel rejection
- >60dB signal to noise ratio for crisp, sharp picture
- Digital display provides quick channel identification
- Non-volatile memory ensures channel programming remains after power loss
- Single-slot design allows up to 12 or 16 units in Pico Macom's MPC-12, MPC-12R and MPC-16PS/CS chassis
- Fully compatible with most other manufacturers' "mini-mod" chassis

Blonder Tongue

AP-60-860A Agile Digital & Analog Processor

- As an agile analog heterodyne processor: accepts one Analog RF input (CATV sub-band channels T7- T13, CATV standard channels 2-135, VHF channels 2-13, and UHF channels 14-69) and delivers one Analog RF output (CATV standard channels 2-135)
- As an agile digital heterodyne processor: accepts one Digital Cable QAM input (CATV sub-band channels T7-T13, and CATV standard channels 2-135) and delivers one Digital Cable QAM output (CATV standard channels 2-135)
- As an agile digital-to-analog processor: accepts one Digital Off-air 8VSB or Digital Cable QAM input (CATV standard channels 2-135, VHF channels 2-13, and UHF channels 14-69) and delivers one Analog RF output (CATV standard channels 2-135)
- Equipped with EAS interface which can also be used as an IF (Intermediate Frequency) input
- Supports Closed Captioning (EIA-608



AD-1 Series Analog Agile Demodulator

Ordering Information

Model	Stock #	Description
AD-1B	5932	Agile Audio/Video Demodulator 54-88 MHz/108-806 MHz
Options		
AD-1-OPT 17	59257	AD-1 Option: Sub-Band Input, 7-49 MHz
AD-1-OPT 20	59250	AD-1 Option: Digital Control, Serial RS-232
AD-1-OPT 25	59255	AD-1 Option: Stereo Audio Output, 600 Ω Balanced
AD-1-OPT 29	59259	AD-1 Option: Balanced Audio, 600 Ω

Toner

TAMD Agile Mini Modulator PAL Format

- 47-862 MHz Bandwidth
- Baseband Audio/Video Output
- Compatible with Most Mini-Mod Chassis
- PLL Design for Stability
- Microprocessor Controlled Synthesized Tuning
- Front Panel Controls with Lock Function to Prevent Accidental Changes
- Both Off Air Broadcast Channels and Cable Channels
- 3 Digit LCD Digital Channel Display

Modular Headend System Rack Chassis and Power Supply

MIPS-12D Power Supply

- Professional Quality, Modular Headend System
- 12 Slot Vertical Chassis / 4 Slot Horizontal Chassis
- Holds Up to Twelve Single Slot Modules
- Supports All Configurations of Modules

MIRC-4 CUBE

- Extremely well suited for use in surveillance or security type applications.
- A video camera's baseband video output can be modulated to any cable television channel and combined with existing TV signals to permit any outlet to monitor the camera feeds.
- Supports up to 4 fixed channel or agile modulators and can be mounted in practically any location.
- Easily permits placing camera signals on adjacent channels

MIRC-4D 4 Slot Horizontal Chassis

- Professional Quality, Modular Headend System
- Horizontal Chassis Holds up to 4 MICM or AMCM Modules
- MIPS-12C Power Supply Supports All Configurations of Modules

MIRC-12V 12 Slot Horizontal Chassis

- Professional Quality, Modular Headend System
- Vertical Rack Chassis Holds Up to Twelve Single Slot Modules
- MIPS-12C Power Supply Supports All Configurations of Modules

AMCM-860 Agile Micro Channel Modulator

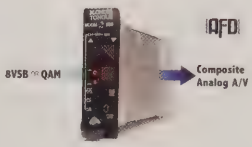
- Audio AGC feature prohibits commercials that accompany broadcast programs from:
  (i) having modulation levels substantially higher than the broadcast program; and
  (ii) having an average maximum loudness substantially higher than that of the broadcast program.
- Audio AGC feature provides consistent audio level among all broadcast programs on different channels and among different programs within the same channel
- Compact design allows for deployment of 12 channels in 2RU
- Utilizes SAW filters for improved performance
- Die-cast chassis for RFI immunity

MICM Series Micro Channel Modulator

- Prohibits commercials that accompany broadcast programs from:
  (i) having modulation levels substantially higher than the broadcast program; and
  (ii) having an average maximum loudness substantially higher than that of the broadcast program.
- Provides consistent audio level among all broadcast programs on different channels and among different programs within the same channel
- Compact design allows for deployment of 12 channels in 2RU
- Utilizes SAW filters for improved performance
- Die-cast chassis for RFI immunity
- Integrated Stereo encoder

MDDM-860 8Micro ATSC/QAM Demodulator 1x 8VSB / QAM ► 1x AV

- Compact design allows for deployment of 6 channels (6 MDDM modules + 6 MICM modulators) in 2RU
- NTSC Composite Analog Video output is in 480i format and supports Closed Captioning (EIA-608)
- Input standards supported are digital off-air (8VSB) and digital cable (ITU-B QAM 64 and 256)
- Scans all 8VSB or QAM channels and stores in memory for quick channel selection
- Demodulates HDTV/SDTV digital signals to NTSC video and analog L/R audio
- On-site firmware updates/status monitoring available through front-panel
- Die-cast Chassis Offers Superior Protection against Ingress or Egress
- Adjustable picture sizes for 16:9 to 4:3 image conversion
- Supports Mono, Stereo, and SAP audio modes



MISE Micro Channel Stereo Encoder

- AModular Design Minimizes Rack Space
- 24 dB Stereo Separation with low Distortion
- Build-in Test Tone for Audio Level Calibration with Modulator
- Pilot Lock & Power LED Indicator

DRAKE

Minirack Headend System A flexible modular approach for reception and redistribution of signals for CATV and Private Cable

MPM860AG Channel 3 or 4 Agile Processor

- Convenient Pushwheel Switch for Channel Selection.
- Standard CATV channels 2 - 135 or Broadcast channels 2 - 69 selectable from front panel.
- IRC & HRC CATV channel formats selectable by internal jumper.
- Channel 3 or 4 input can be double sideband or vestigial sideband.
- SAW filtering for superior adjacent channel performance and removal of undesired sideband if present at input.
- Stereo ready providing original stream is stereo and passes via channel 3 or 4
- +45 dBmV output
- Front panel control of RF output level.
- Complies with FCC Rules Part 76.
- Use up to 12 MPM860AG processors in a two-rack height space powered by a single PSM121 Power Supply.
- Agility allows for "hot standby" solutions in headends.
- Agility allows for minimal service stock.
- An Economical NTSC channel 3 or 4 channel processor

DMM806 Agile Video Demodulator

- Low cost NTSC demodulator
- Synthesized reception of off-air TV channels 2 through), and CATV channels 2 through 125; selection set by a ont panel pushwheel switch
  ked 1.0 Vp-p NTSC standard negative sync video itput, adjustable audio output level
  efeatable de-emphasis for passing stereo and SAP gnals to a Drake modulator
- Wide range AGC
- Low distortion synchronous detection

RMM12
Minirack Headend System Chassis

RMM4
Minirack Headend System Chassis

PSM121
Minirack Power Supply

PS121 / RMM12 / RMM4 Minirack Headend System

The minirack headend system is a state of the art compact modular headend system allowing maximum use of rack space. The **RMM-12** Chassis with its PSM121 Power Supply allows the mounting of up to 12 modulators or other devices in 3-1/2" of rack space. The RMM-12 chassis accommodates any combination of VMM-600, VMM-860 and/or VMM-860AG Agile Modulators, DMM-806 Demodulators, MMTS20 Stereo Encoders, TUM714 Sub-Band Upconverters or a vast range of similar units from other manufacturers.

The **RMM4** is a 1RU rack mount carriage with a built-in power supply. The assembly accepts up to four mini modules, such as Video Modulators, Video or Audio Switching Modules, etc. The power supply features a universal input voltage switching power supply with attached 115 VAC line cord and four separate DC output cables with polarized 3-circuit connectors.

The **PSM121** minirack power supply is an air cooled switching type power supply designed to power the modules of the Drake minirack products. It mounts in the RMM12 rack enclosure and powers up to 12 modulator, demodulator, video display, video switching or audio switching devices.

MMTS20 Stereo Encoder

- High quality, economical MTS stereo encoder
- Greater than 20dB stereo separation
- Convenient front panel audio level control and indicator permit setting of proper audio levels
- Front panel test tone switch allows easy calibration of stereo separation and minimizes installation time
- Pilot lock indicator verifies that the encoder is properly synchronized.
- Modulators, rack mount and power supply sold separately

TUM714 Block Upconverter for Conversion of T Channels

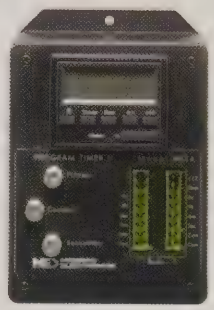
- An inexpensive method of returning remotely originated programming to the headend
- Upconverts 5 - 54 MHz - by 168.25 MHz
- Usable at high +30 dBmV input level
- Suitable for use with digital or analog signals
- Modulators, demodulators, stereo encoder, rack mount and power supply sold separately

R157Adual Dual Program Timer Jr.

- Two separate timed A/V switches with LCD displays
- Small Size
- "F" connectors
- Unused video terminated to 75Ω
- Balanced stereo audio
- Six on/off commands per day, per timer
- Block programming Monday - Friday
- Battery backup of clock on power loss (1 AA)
- Includes power pack
- Standard 19 inch rack mount
- May be used for IF/RF switching, A/V, or composite A/V

631A Program Timer Jr.

- Small Size
- "F" Connectors
- Unused Video Terminated to 75Ω
- Balanced Stereo Audio
- Six ON/OFF commands per day
- Block programming for Monday through Friday
- Battery backup of clock on power loss (1AA)
- Includes power pack
- May be used for IF/RF from 0 to >950 MHz



R157A Program Timer Jr.

- Small size
- LCD DIsplay
- 'F' connectors
- Unused video terminated in 75 Ω
- Balanced stereo audio
- Six on/off commands per day
- Block programming Monday - Friday
- Battery backup of clock on power loss (1 AA)
- Includes power pack
- Standard 19 inch rackmount
- May be used for IF/RFswitching, A/V, or composite A/V

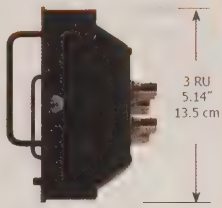
R153 Program Timer 2

- 999 event capability
- 16 collector outputs
- RS-232C ports for PCand logging printer

Marshall Electronics

V-R72DP-2C Dual Screen 1.2 TFT MegaPixel Analog Composite

- High Resolution 7-inch wide screen
- 800 x RGB x 480 Dots with 1.2 million pixels
- 100% digital processing
- Analog signals converted to 10 bit digital
- High resolution scaling of all images
- Wide viewing radius - 130 horizontal and 120 vertical provides superior visibility when the viewer is not directly in front of the screen
- 380 candelas per square meter (cd/m²) luminance produces enhanced image quality in varying light and viewing conditions
- 400:1 ratio of contrast between black and white luminance values
- 4:3 and 16:9 screen aspect ratios for DTV applications
- Automatic NTSC/PAL format detection
- Easy to see three color tally indicators



- Built in Color Bars
- Blue Screen for color adjustment
- Adjustment Settings Memory

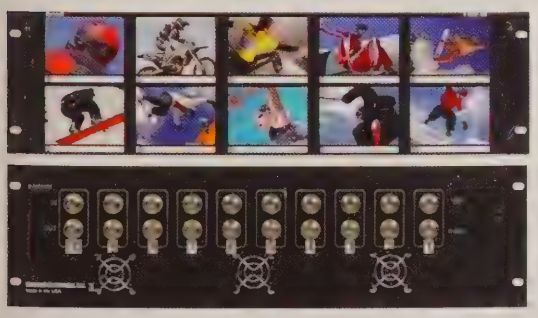
Standard inputs:

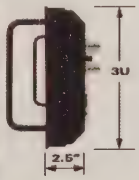
- 2 Composite Video PAL/NTSC per screen
- Loop-through of all inputs signals

V-R44P Four 4" Rack Mounted Full Color Active Matrix LCD Panels

- Ultra-compact design fits in EIA standard rack 2U high
- High Resolution, 480 x 234 pixels, 112,320 total
- Ultra bright panels with 300 cd/m² luminance
- NTSC/PAL auto recognition
- Individual color, tint, brightness and contrast controls
- Unique 100 degree tilt adjustment while mounted in rack
- Three color, self-powered tally system provided for each panel
- Dry Erase Marker for EZ Identifying of screens

V-R35P Ten 3.5" Active Matrix LCD Panels with SDI Inputs

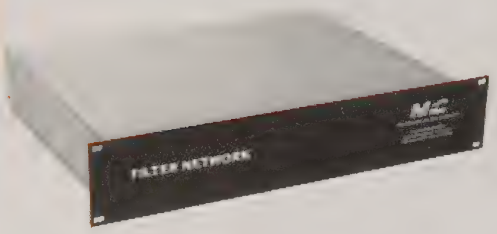




- High Resolution 320 × 234 pixels
- Self-Terminated SDI Inputs with active loop-through
- Automatic NTSC/PAL Video Signal Detection screen
- 90 degree tilt adjustment while mounted in rack

"Brickwall" Single TV Channel Deletion Filter

Microwave Filter Company, Inc.

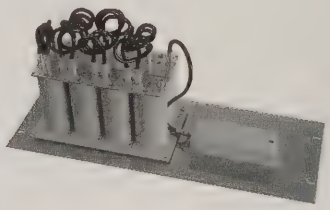


Select Models pass up to 1 GHz without an external passband extender.

The series of deletion filters attenuate the entire channel spectrum from video carrier to aural carrier to allow reinsertion of new information without interference. The 50 dB continuous suppression from video carrier to aural carrier has been found more than ample for rein sertion. Attenuation drops sharply at channel edges to preserve uppe and lower adjacent channels.

"Brickwall" Lowpass & Highpass Filters

These made to order filters divide the entire TV spectrum into two regions: passband and stopband without sacrificing a channel as a guardband. "Brickwall" lowpass and highpass filters are often used to suppress a block of channels for reinsertion of other programming.



Special Deletion Network

7964 Series (Contiguous)

Filter networks for suppressing an arbitrary number of contiguous channels are supplied to order. For only a few channels, a series connection of individual channel deletion filters is used. For a large number of contiguous channels, a special network is used. Its components consist of a "Brickwall" lowpass and highpass filter and a pair of specially designed bandsplitters. For an intermediate number of contiguous channels, two single channel deletion filters establish the "Brickwall" ends while a less selective network deletes the middle of the specified stopband.

The "Fastrap" Series Negative Trapping For Channel Security

The "Fastrap" (Fast Delivery) series includes negative traps for channels 2 to 59, U.S. standard channels, HRC, invert or offset. Traps are also available for European channels.

"Fastrap" Varieties:

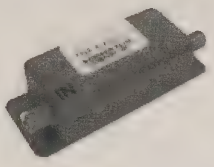
- Negative Traps
- Band Suppression Filters For Trapping Multiple Contiguous Channels
- Lowpass and Highpass Tiering Filters
- Special Subscriber Multichannel Networks
- Positive Traps

Microwave Filter Company, Inc.

Special Deletion Network

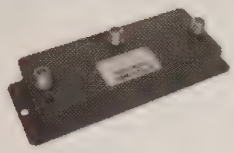
3322 Series Lowpass Filter For Sub-band Channels

The model 3322-W/DD(50) is part of a family of economical low pass filters intended for headend applications. This unit passes all sub-band channels through and including channel 36, offering less than 3 dB insertion loss at channel W. It provides greater than 50 dB rejection from channel DD(40) to 1,000 MHz.



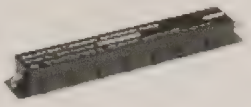
3329 Series Bandsplitters/Combiners

The 3329 Series broadband cable bandsplitters include a model for almost any CATV or LAN application and reflect a design capability spanning baseband (4.2 MHz) to UHF (890 MHz). We will gladly quote your specifications for your special system or application.Splitters are AC/DC passing on the low band side only.



3303 Series Adjacent Channel Bandpass Filters

These filters suppress adjacent channel and off air interference while maintaining low insertion loss in the passband. Models are also available for PAL and SECAM formats.

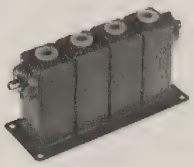


3160 Series VHF TV Channel Bandpass Filters

A general purpose, low insertion loss, channel bandpass filter, it suppresses interference at the semi-adjacent channel and beyond. Its applications include processor clean-up before combining or filtering off air receptions.

4930 & 3278 Series UHF TV Channel Bandpass Filters

These bandpass filters can be used to clean up the desired channel at the input of the processor or at the output before combining. The model 4930 has a center frequency option of 300-450 MHz and the model 3278(4)-(Ch.#) HYP has a center frequency option of 450-750 MHz.



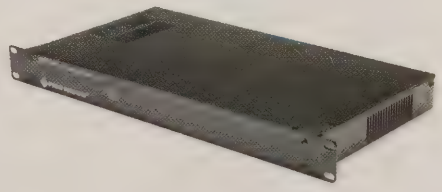
CEF-750 Channel Elimination Filters

- Rack Mountable - 1 EIA (1.75") Rack Space
- Suppresses an Entire Analog Channel, Allowing Insertion of Desired Signal
- Low Insertion Loss
- CEFs May Be Cascaded for Multiple Channel Deletions

CEF/860 860 MHz Single Channel Elimination Filter

- 142 Channel frequency passband 5~860MHz (CATV T7~T13, 2~13, A1~A5, A~ZZZ, 89~135)
- Rejects a total of 66 channels ranging from Ch.2-Ch.ZZ
- Deep -50dB minimum cavity-tuned notch filter for clean signal removal of selected cable channels and subsequent insertion of locally originated signals
- Sharp filter cut-off edges allow adjacent channels to be processed with negligible loss
- High-Q helical resonators with unique coupling circuitry provide excellent long-term stability
- Up to 4 units can be cascaded for multiple channel elimination and reinsertion with negligible interaction

PICO DIGITAL



DST1 Digital Stereo Tuner

BOGEN

Description

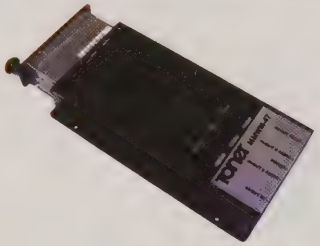
The Bogen DST1 Digital Stereo Tuner is ideal as a background music source in sound systems of all sizes. It incorporates a digital PLL-synthesized tuner for precise reception of FM and AM signals. Tuning is accomplished by pushbuttons with frequency readout appearing on an alphanumeric, fluorescent display panel.

The DST1 features the ability to store up to 60 total presets (FM and AM). Stations can then be selected individually by pushbutton or by scanning the preset stations.

The tuner operates from nominal 120V AC, 60 Hz. It is designed for shelf- or rack-mounted installation and is one rack space (1 RU) high. Removable rack ears are included with the unit.

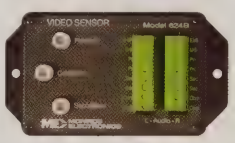
MMWM-47 Minimod Wall Mount

Toner



- Small foot print
- Rugged CRS chassis
- Easy screw mounting to a wall or even velcro to the back of a monitor
- Handles most manufacturers products (Blonder Tongue, Drake, Pico, and Toner)
- Black powder coated finish
- Universal 90-240VAC power supply with IEC input (computer type) power socket
- +12V 1000 mA and +5V 2000 mA DC output
- Size 4"W x 7"L x 1"D (101mm W x 177mm L x 25 mm D)
- Weight 14 ounces (0.4 kg)

MONROE ELECTRONICS



625A RF/IF Sensor

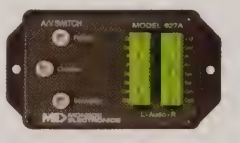
- Small size
- 'F' connectors
- Unused signals terminated in 75 Ω
- Includes 12 VDC power pack
- Flanged enclosure for easy mounting
- External Solid State Switch, driven by Sensor

624B Video Sensor

- Automatic 2x1 balanced stereo-audio-follow-video switching
- Controlled by Video sync pulses.
- Monitors the loss of composite sync pulses on the primary video input
- Automatically switches to the secondary video input upon loss of sync pulses
- Remains in this state until the primary video returns, prompting the 624B to switch back to the primary video input
- This state of the art configuration allows accurate, clean, dependable switching in unattended locations.

627A Stereo A/V Switch

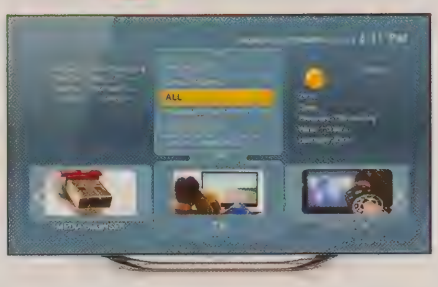
- Video Switch works from 0 to 950 MHz
- Small size
- 'F' connectors
- Unused signals terminated in 75Ω
- Includes 12 VDC power pack
- Flanged enclosure for easy mounting



MAG254 IPTV/OTT Settop Box

- MPEG2/4 SD and HD
- WiFi / UPnP / SPDIF
- HDMI 1.4A Interface
- Media Playback
- Dual USB Interfaces
- Remote I/R Jack
- Composite Video / Audio Output
- Timeshift (using USB stick)
- Record and Playback (USB)
- Secure Media Content Protection
- VOD
- Verimatrix CAS* (by order MAG255)
- 45 Button Remote Control

infomir



The MAG254/255 is a Fully Functioning IPTV Settop for Both IPTV Systems & Internet Content With Its Own Free Middleware

Infomir's Stalker Middleware is free and was developed by the best professionals in the industry for an easy and cost effective launch of IPTV projects. Stalker Middleware is designed for operators and systems integrators providing IPTV, OTT and VoD services using MAG series Set-Top Boxes. Stalker Middleware makes possible a fast and efficient launch of IP-network video services. No payments, no contracts, no tricks. Stalker Middleware is free and updates regularly. Numerous new functions can be set up through the open source code.

Unlimited Access to Entertainment
Watch films in FullHD from the best online movie theatres, browse through the most popular online videos, chat with your friends, exchange photos and other content, listen to your favorite radio station and sing karaoke. All this made possible by just one device.

Visionary Solutions, Inc.

PackeTV Views IPTV Controller / Manager

PackeTV® Views is a fully configurable online IPTV controller that allows you to manage multiple IPTV account types and roles to simplify content access, maintenance, and publishing.

It runs directly in your browser, and maps IPTV media sources using a fully qualified Uniform Resource Identifier (URI).

- HTML-based solution is compatible with most
- popular Web browsers
- Affordable - Single-instance and enterprise licenses are available
- Easy to set up and manage, doesn't require a tech specialist or IT professional
- Leverages Software a s Service (SaaS) technology, minimizing end-user requirements and costs
- Platform agnostic, works on and with any system
- Compatible with open-source media player VLC from VideoLAN.org

THOR DIGITAL

HDME-I/P-3 HD IP Streamer

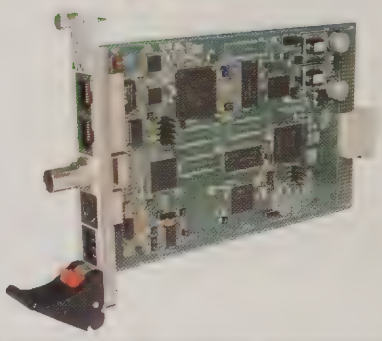
dlna

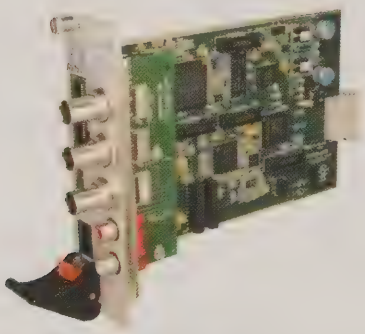
- ✓ DLNA Certified
- ✓ Video Resolution: Up to 1080p
- ✓ HDMI, Component, Composite Inputs with Auto Detection
- ✓ Dual Mode H.264 MPEG-4 / MPEG-2 Selectable
- ✓ Variable Bit Rate Control
- ✓ Closed Captioning Support
- ✓ Easy Installation and Use
- ✓ Audio Format: MPEG-1-Layer2(MP2), AAC, Dolby AC-3 Pass Through HDME-I/P Dolby AC-3 HDME-I/P-3
- ✓ GUI for Setup and Control
- ✓ GigE Output Port
- ✓ Lightweight and Compact Design
- ✓ Front Panel LED Status Display

Visionary Solutions, Inc.

AVN420 H.264 Standard Definition Encoder Blade

Visionary Solutions' IPTV encoder can turn video from any composite or S-video source into full-screen, full resolution Internet Protocol digital video in real time. The AVN420 encodes standard definition video in an h.264 stream (MPEG-4 Part 10/AVC). It's used in a Media Processing Platform (MPP), a high density rack mount system. Plug a video source directly into th blade, plug into the network via the RJ-45 connection, and stream real-time digital video over your LAN or WAN. The MPP with AVN420 blades is suitable for all applications requiring cost-effective, low bit rate, standard definition video distribution over IP networks.





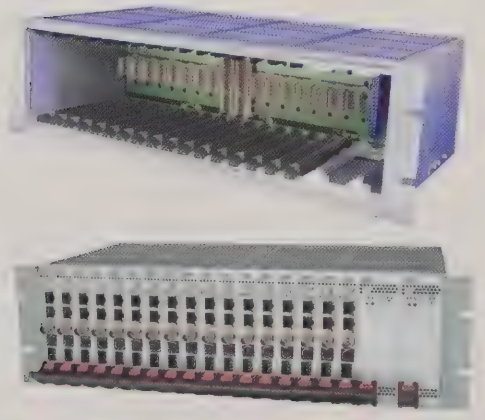
AVN441HD H.264 High Definition Encoder Blade

Visionary Solutions' IPTV encoders can turn video from almost any source into full-screen, full resolution Internet Protocol digital video in real time. The AVN441HD encodes high definition video in an h.264 stream (MPEG-4Part10/AVC). It's used in a Media Processing Platform (MPP), a high density rack mount system. Plug a video source directly into the blade, plug into the network via the RJ-45 connection, and stream real-time high definition video over your LAN or WAN. The MPP with AVN441HD blades is suitable for all applications requiring cost-effective, low bit rate, high definition video distribution over IP networks.

AVN443 HD-SDI Input H.264 HD IPTV Encoder

Visionary Solutions' IPTV encoders can turn video from SDI (SD/HD/3G) or HDMI (DVI-D with optional adapter cable) sources into full-screen, full resolution, Internet Protocol digital video, compatible with multicast, webcast and video-on-demand protocols, in real time.

The AVN443 encodes high or standard definition video in an h.264 stream (MPEG-4 Part 10/AVC) and is IGMP v3 multicast capable. It's used in a Media Processing Platform (MPP), a high density rack mount system. Plug a video source directly into the blade, plug into the network via the RJ-45 connection, and stream real-time high or standard definition video over your LAN or WAN. The MPP, with AVN443 blades, is suitable for all applications requiring cost-effective, low bit rate, high or standard definition video distribution over IP networks.



MPP1700 Chassis for the Media Processing Platfor

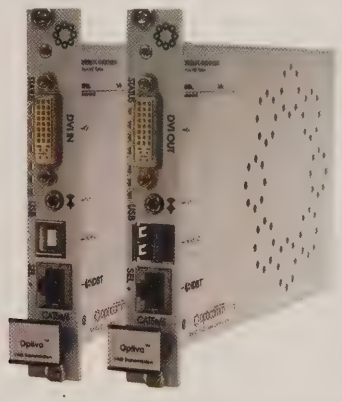
The MPP1700 is a 3RU rack mount chassis that houses Visionary Solutions' IPTV Media Processing Platform. The Media Processing Platform is a high density blade style system for IPTV transport. The MPP1700 can be filled with VSI blade products such as the AVN220 or AVN420 encoder blades. Use one PSA200 or add an optional second PSA200 for dual redundant power supply support. The MPP1700 is designed to be mounted in a standard 19 inch rack and oriented such that the blade insertion, cabling and indicators are facing out the front of the rack. Only the AC power connection is located on the back of the unit.

HD4-ENC & HD4-DEC HDMI, VGA & Audio Over IP

- Baseline, Main or High Profile H.264 encoding
- AAC-LC and MPEG 1 Layer II audio encoding
- Gigabit SFP fiber or Copper RJ45 TS interface
- Resolutions up to 1920x1200 or 1080P
- TS/IP Unicast and multicast output
- HDMI 1.4a or VGA inputs on encoder
- HDMI 1.4a output on decoder
- HDMI embedded audio or analog stereo audio inputs
- Supports SD or HD TS stream output with corresponding definition of input signal
- IP output compliant with UDP/RDP protocol
- Configuration and monitoring through easy to use web UI

EVE-HD & EVD-HD Eclipse HD, HDMI, USB, Audio, RS-232 Transport Link Over CATx to 100 Meters

- Supports 1080P/60Hz and 1920x1200/60Hz extension up to 100m in a point-to-point configuration
- KVM over IP using HDMI with HDCP and USB
- Supports seamless one-to-many switching using Unmanaged Gigabit Ethernet Switches
- Supports video wall processing using Eclipse HD PC software
- Supports POE (Power over Ethernet)
- Encoder provides HDMI loopback for local monitoring
- Decoder provides separate stereo audio output for HDMI de-embedded audio
- Control via IR remote control, RS-232 software control or Web-based UI



OTC-1DVI2AUSB Digital Video, DVI, Audio, USB-KVM Over CATx Extender

- SMPTE, HDCP and HDBaseT compliant
- Uncompressed DVI Video over CAT5e/6 up to 100 meters
- Supports DVI resolutions up to 1920x1200
- Supports High Defi nition 1080P
- Supports USB 2.0 for HID only
- Supports analog stereo audio
- Support format conversion, over the copper, in conjunction with the OTC Series
- Supports CAT5e, Cat6, CAT6a, CAT7, UTP / STP Video Format Pixel Clock Frequency
- 3-Year warranty

OTC-1HDP 3G HD-SDI, Embedded Audio & HDBaseT

- SMPTE and HDBaseT compliant
- Uncompressed HD-SDI Video over CAT5e/6 up to 2.97 Gbps (to 100 meters)
- Transmitter: One CAT5e/6 output, one SDI input BNC connector and one BNC loopback output
- Receiver: One CAT5e/6 input, one CAT5e/6 (UTP) output for daisy-chain capabilities, and one SDI output BNC connector
- Supports embedded digital audio
- Support format conversion, over the copper, in conjunction with the OTC-1DVI2AUSB
- Supports CAT5e, Cat6, CAT6a, CAT7, UTP / STP or FTP cables
- 3-Year warranty

opticomm emcore

CX-1DVI-A-D DVI Video, Audio & RS-232 CATx HDBaseT Extender

- Supported resolutions: 480p, 720p, 1080p/60Hz 1600x1200/60Hz, 1920x1200/60Hz
- HDBaseT and DVI 1.0 compliant
- EDID and HDCP compliant
- Extends the transmission length from the sources up to 100 meters
- Auto equalization
- Supports HDTV resolutions and VESA standards up to 1920x1200/60Hz
- Supports serial port RS-232 [TXD and RXD] for control
- Direct plug-in at TX and wall-mounting with screws at RX

CX-1HDMI-LT Ultra HD CATx HDBaseT Extender

- Support HDMI Deep Color & full 3D & 4K2K@30 (HDBaseT technology)
- Extend the transmission up to 60m (198ft) from the HDMI source at Full HD 1080p and 40m (130ft) at 4K2K@30
- Supports up to 48-bit color depth
- Supports daisy-chaining up to 10 displays in conjunction with transceiver CX-1HDBT-IR-DC
- Supports HDCP, CEC & EDID
- Auto equalization
- Pure unaltered uncompressed 7.1ch digital HDMI over Cat.5/5e/6 cable transmission
- DTS-HD Master Audio and Dolby TrueHD high bit rate audio support

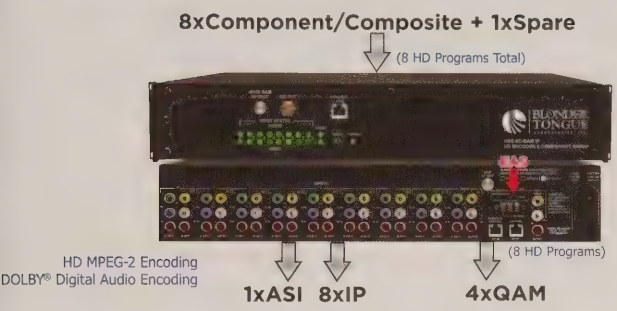
CX-1HDMI-IR Ultra HD HDMI CATx HDBaseT Extender with RS232 & 2-Way IR

- Extends uncompressed HDMI video over CATx, up to 100m at Full HD 1080p and 80m at 4K UHD (3840x2160/30Hz)
- Supported resolutions: 480i, 480p, 720p, 1080i, 1080p/60Hz, 4K UHD (3840x2160/30Hz)
- Supports HDMI Deep Color (48-bit color depth)
- Supports 3D video
- Supports POE/POH (Power over Ethernet/HDBaseT)
- Supports HDCP, CEC and EDID
- Auto equalization
- Supports surround sound (up to 7.1ch) or stereo digital audio
- Supports DTS-HD Master Audio and Dolby TrueHD high bit rate audio
- Supports Bi-directional IR (20 KHz to 60 KHz)
- Full Duplex RS-232 control up to 115,200 bps through connector

MX-8HDMI-CATX 8x8 HDMI Matrix Switch Over CATx with Loopback

- Extends and Switches Uncompressed HDMI Over CATx/HDBaseT, up to 60m at Full HD 1080p (48-bit)
- Supports 3D Video
- Supports PoC (Power over CATX) Which Powers Remote Receivers
- Supports HDCP, Default EDID and Learns EDID of Connected Displays
- Supports 7.1ch Surround Sound, Stereo Digital Audio
- Switch Any HDMI Input to Any Output Using Local Front Panel Push Buttons or for Remote Control: IR, RS-232, Ethernet and Web Interface
- Completely Non-Blocking Matrix Allowing any Source to be Connected to any Display
- Compatible with MX-CATX-RCV Receivers for Remote Extension

HDE-8C-QAM/IP MPEG2 HD IP Encoder



- Accepts up to 8 programs from any of the following inputs: 8xComponent and 8xComposite
- Supports additional 1 spare input to replace the failed input
- Digitizes, MPEG-2 encodes, and multiplexes up to 8 inputs into 4 QAM output channels (2 programs per QAM channel)
- Provides any 1 of the 4 QAM output streams in ASI format
- Configurable to ITU-T J.83 Annex A and B digital QAM formats
- Provides 8 SPTS IP outputs
- Provides comprehensive GUI-based monitoring and control via standard Web browsers
- Provides a front-panel RF test point (at 20 dB below primary QAM output)
- Equipped with EAS interface (Analog Video + L/R Audio) and triggering compatible with all EAS receivers
- Supports Real-time Dolby® Digital audio encoding
- Supports Closed Captioning EIA-608 for each of the 8 encoded programs
- Supports user-defined PSIP configuration

DRAKE

PEG-NE24-IP-C HD PEG Channel Encoder

- MPEG-2 and/or MPEG-4 / H.264 video encoding
- Encodes a HD and SD stream of the same content in either MPEG-2 or MPEG-4 / H.264 formats
- Resolutions of 480i, 720p, or 1080i
- Dolby® Digital, AAC stereo audio, or MPEG1-Layer 2 stereo audio encoding from PCM-embedded audio source
- HD-SDI or composite video with L+R audio input
- IP output via SFP port (SFP optional-see back)
- Unicast and multicast capable
- Built-in watchdog timer with system reboot capability
- Field-upgradable firmware
- Configuration and shutdown control via HTTP server UI and programmable API
- Desktop model

D-Link®
Building Networks for People

DGS-1100-xx EasySmart Switch Series

L2 VLAN Control
Simple management of L2 VLANS without the complication of a fully managed switch

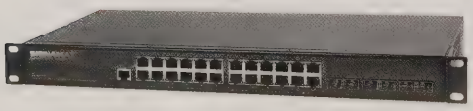
Traffic Prioritization for Voice and Video
Auto Surveillance VLAN (ASV) and Auto Voice VLAN ensure security systems and telephone systems have highest priority.

Energy Efficient Technology
IEEE 802.3az EEE and D-Link Green 3.0 technology help reduce energy use and operating costs.

Product	Description
DGS-1100-05	EasySmart 5-Port Gigabit Switch
DGS-1100-08	EasySmart 8-Port Gigabit Switch
DGS-1100-08P	EasySmart 8-Port Gigabit PoE Switch
DGS-1100-16	EasySmart 16-Port Gigabit Switch
DGS-1100-24	EasySmart 24-Port Gigabit Switch

SIGNAMAX
CONNECTIVITY SYSTEMS
An AESP Company

065-7861 26-Port 10/100/1000 Stackable Managed PoE



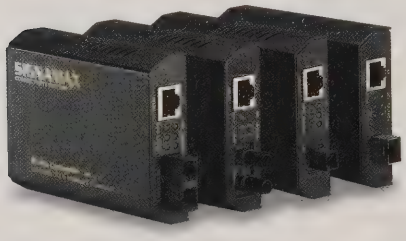
- Supports both IEEE 802.3af PoE and IEEE 802.3at PoE+ devices.
- Dual speed SFP slots for Fast Ethernet or Gigabit Ethernet fiber uplink.
- 802.3az Energy Efficient Ethernet standard.
- IPv6 and s-Flow support.
- Easy-Port-Configuration, for ease of setup in the IP Phone, IP Camera or Wireless environments.
- IEEE 802.1AB LLDP (Link Layer Discovery Protocol) and LLDP-MED (Media Endpoint Discovery) support.
- Supports RSTP/MSTP/STP for Ethernet redundancy.
- IP Multicast Filtering through IGMP Snooping V1, V2 & V3. Supports port-based VLAN and IEEE 802.1Q VLAN Tagging and GVRP.
- IEEE 802.1p QoS with four priority queues.

065-7940C-WS 24-Port 10/100/1000 WebSmart Switch with 4 SFP Ports

- WebSmart browser-based switch administration.
- 4 dual media ports for flexible fiber connection.
- Supports 10/100/1000 Mbps speed and duplex mode auto-negotiation.
- Supports auto MDI/MDI-X functionality for easy uplink.
- Supports 802.3x flow control for full duplex operation.
- Supports 9600 byte Jumbo Frames.
- Supports Port Mirroring.
- Supports 802.3ad LACP Port Aggregation (up to 12 ports and 12 groups).
- LEDs indicate speed, Link/Activity, and Power Status.
- Slim & compact design.

Media Converter Systems

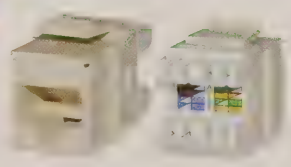
Switching Converters with Link Fault Signaling



The Signamax 065-1185 16-Bay Rack Mount Media Converter Chassis provides higher rack mount media converter density for large installations that can accommodate rear access to the chassis for power supply maintenance. The 065-1185 provides 16 bays of space for all 065-11xx series Signamax media converters in a standard two rack unit high enclosure. High port density allows a variety of media converter solutions to be housed in a minimum amount of rack spaces for enterprise-level businesses and carriers. Redundant, fan-cooled load-sharing power supplies can be hot-swapped to ensure system uptime.

Part Number	Description
Multimode Converters	
065-1100	10/100BaseT/TX to 100BaseFX Media Converter, ST Multimode, 2 km span
065-1110	10/100BaseT/TX to 100BaseFX Media Converter, SC Multimode, 2 km span
065-1172	10/100BaseT/TX to 100BaseFX Media Converter, MT-RJ Multimode, 2 km span
065-1174	10/100BaseT/TX to 100BaseFX Media Converter, LC Multimode, 2 km span
Singlemode Converters	
065-1120	10/100BaseT/TX to 100BaseFX Media Converter, SC Singlemode, 15 km span
065-1120ED	10/100BaseT/TX to 100BaseFX Media Converter, SC Singlemode, 40 km span
065-1120XLD	10/100BaseT/TX to 100BaseFX Media Converter, SC Singlemode, 75 km span
DIN Rail Mounting Brackets	
065-11DINMT	DIN Rail Mounts Bracket for 065-11xx Series Media Converters
Media Converter Rack Mount Chassis	
065-1185	16-Bay Rack Mount Media Converter Chassis, AC
AC-1185	Spare Redundant Power Supply 90 - 240 V AC
1185FAN	Spare Individual Fan Assembly

SIGNAMAX™
CONNECTIVITY SYSTEMS
An AESP Company



KJS458MT-6AC Category 6A Screened High-Density MT-Series Keystone Jacks

- Meets 10G IEEE 802.3an transmission requirements
- Overall solid shielding design
- Meets or exceeds TIA-568-C.2 performance specifications
- Circuit identification icons and dust covers are part of the kit
- Contact design provides enhanced plug to jack connection integrity and protects against damage caused by insertion of 4 or 6 position plugs
  Compatible with Signamax KJMT-8600 multipair termination tool and standard single –position 110 punch-down tool
- 110-type contacts provide improved wire retention and ease of termination

KJ458-C6A Category 6A Unscreened Keystone Jacks

Signamax Connectivity Systems category 6A keystone jacks are designed to meet 10 Gigabit IEEE 802.3an rev. 1.0 transmission requirements, and are guaranteed to meet or exceed TIA-568-B.2-10 channel performance. Unscreened keystone jacks, enclosed in copper foil to eliminate alien crosstalk support category 6A 100-meter channel performance. Category 6A keystone jacks are compatible with Signamax key-stone faceplates, surface mount boxes, and 24- and 48-port snap-in patch panels providing flexibility in field installation.

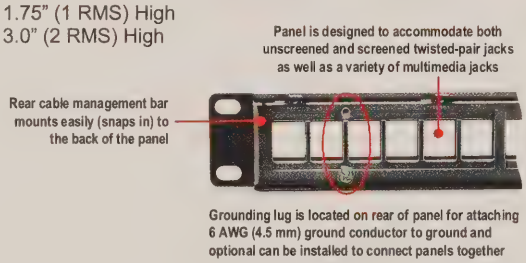
Standard color is Light Ivory. For other colors add following to P/N:

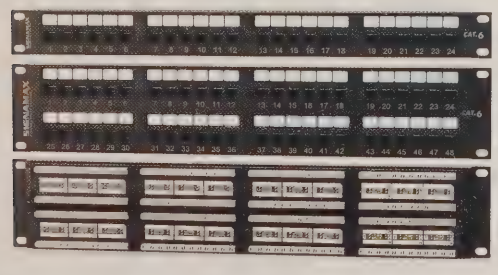
-BK (Black)	**-BU** (Blue)	**-GN** (Green)	
	-RD (Red)	**-WH** (White)	**-YE** (Yellow)

Category 6A Unscreened Patch Panels

Part Number	Description
24458-C6A	24-Port Category 6A Patch Panel, T568A/B Wiring, 1.75" (1 RMS) High
48458-C6A	48-Port Category 6A Patch Panel, T568A/B Wiring, 3.0" (2 RMS) High

The category 6A unscreened patch panel is available in 24- and 48 port versions and provides the ability to terminate unscreened category 6A cable in category 6A keystone jacks. Keystone connectors used in the panel are designed to meet or exceed TIA 568-B.2-10 channel level specifications for superior performance. The panel features front labeling areas and comes with a rear cable management bar that mounts easily to the back of the panel.

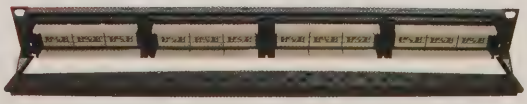




Category 6A Rack-Mount Modular Patch Panels

Part Number	Description
12458MD-C6C	12-Port Category 6 Patch Panel, T568A/B Wiring, 1.75"-High
24458MD-C6C	24-Port Category 6 Patch Panel, T568A/B Wiring, 1.75"-High
48458MD-C6C	48-Port Category 6 Patch Panel, T568A/B Wiring, 3.50"-High
CMB-250-P	Panel-Mount Cable Management Bar, Plastic Body, 2.5"-Deep

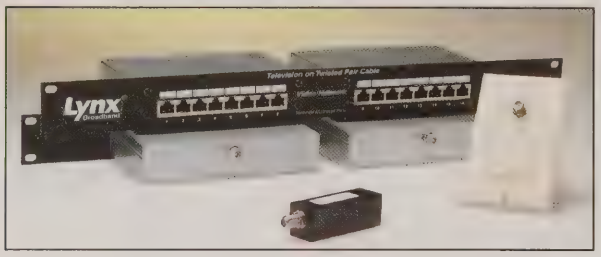
Category 6 Patch Panels are designed to exceed ANSI/TIA-568-C.2 component, permanent link and channel performance specifications providing usable bandwidth beyond 250 MHz and are backward compatible with lower category cabling systems. These high-density panels are available in 12- through 48-port versions and feature enhanced front and rear labeling features for easy circuit identification. Category 6 panels support both T568A and T568B wiring schemes using an easy-to-read color-coded wiring label.

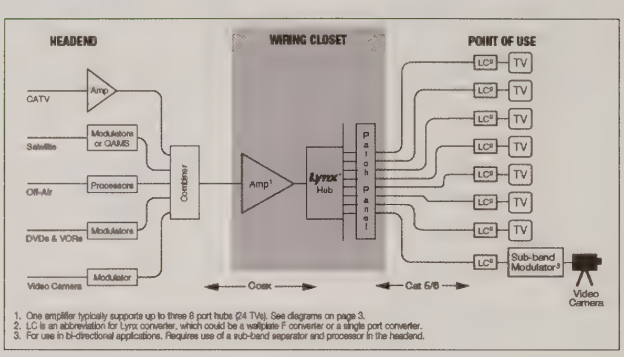


Panels include an integrated cable management feature for cable routing and strain relief requirements. An optional cable management bar, which mounts easily to the back of the panel, is available for improved cable routing and strain relief.

Lynx Television Network

Television, HDTV & Cable TV over CAT5/6





- Distributes up to 528 digital channels on Cat 5 or Cat 6 cable
- Excellent for CATV, SMATV, or off-air television distribution
- Simplifies cabling requirements
- Increases flexibility for moves, adds and changes
- Improves reliability
- Creates a technology bridge to IPTV.

Stand Alone & Wall Mount Baluns

HD Giga BOB (Intelligent Balun)

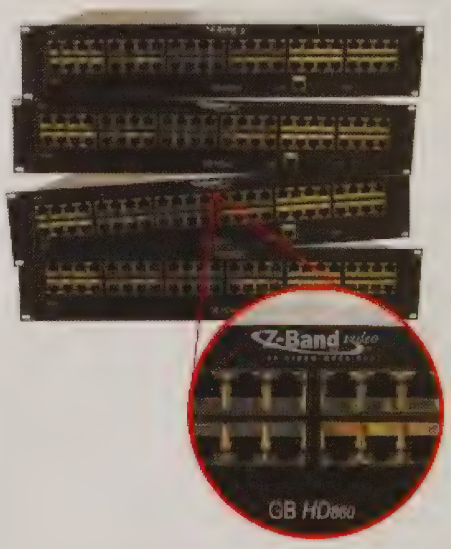
GigaBUD / GigaBOB

HDTV Over CAT6/7 or Cable UTP

The Z-Band system is a modern RF video distribution system that sends CATV/HDTV and satellite TV over CAT 5 or 6 cable. It also distributes VOD services and internally-generated video over the same CAT 5 and CAT cable.

Why does a Z-Band system distribute HDTV/video over CAT5 or CAT6 cable? While using coax cable has been the traditional way to distribute video on a wide scale, it isn't always the most efficient. CAT cable offers easier configuration, uses less materials, and reduces labor costs. Using CAT cable also improves the distribution of the signal from the hubs to the individual devices. This means easy scalability to hundreds and thousands of TVs.

While Z-Band RF video distribution systems are compatible with CAT 5 and CAT 6 cable, video and TV over CAT 6 provides twice the bandwidth. If your company will need to expand video distribution capabilities at some point, this is key to your future growth..



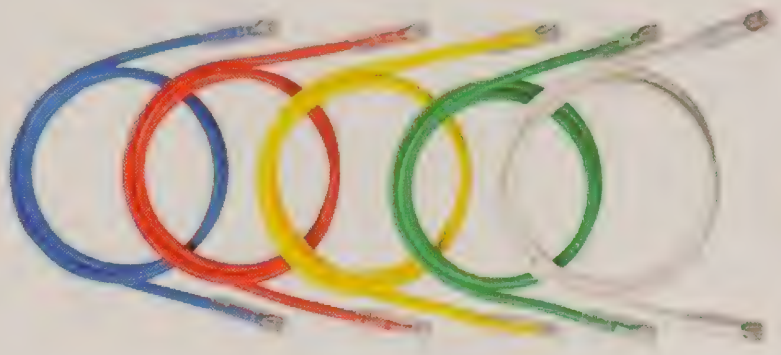
Product	Description
HZ 6001-1	24 Port Video Hub
HZ 6001-1R	24 Port Video Hub with return path capabilities
HZ 6001-2	12 Port Video Hub
HZ 6001-2R	12 Port Video Hub with return path capabilities

CAT6 Series

Category 6 Patch Cords, 550 MHz Shielded Network Cable

THOR DIGITAL

The Thor Digital CAT6 jumpers are premium cables for all network connectivity applications. These CAT6 patch cords feature shielding for optimum interference protection which is especially important when transporting digital video.



They have a low profile snagless boot for ease of use and protection of the connector latch tab. Compatible with both TIA 586A and 586B wiring configurations.

These LAN patch cords are ideal for use in the home or business where a reliable and quality network jumper cable is needed such as cable modems, IP connections, IPTV, digital video or any other ethernet system.

Ordering Information

Model	Description	Length Options (feet)
CAT6SBK*	CAT6 shielded patch cord, black jacket	3, 6, 8, 10, 14 *
CAT6SYL*	CAT6 shielded patch cord, yellow jacket	3, 6, 8, 10, 14 *
CAT6SRD*	CAT6 shielded patch cord, red jacket	3, 6, 8, 10, 14 *
CAT6SBL*	CAT6 shielded patch cord, blue jacket	3, 6, 8, 10, 14 *
CAT6SG7*	CAT6 shielded patch cord, grey jacket	3, 6, 8, 10, 14 *

Replace the * in the model with the length, for example: CAT6SRD8 is a red, 8 foot long patch cord.

Specifications

Applications

Telephony Voice Wiring, Network T Base 10 / 100 / 1000, Digital Video, IPTV, UL Subject 444, EIA / TIA568 & ISO / IEC 11801

Construction

Center Conductor	4 pairs 0.0226" (23 AWG) standed bare copper
Dielectric:	0.0403" PE
Separator Cross:	PE
Shield:	AL / PE laminated tape
Outer Jacket:	0.248" PVC
Connector:	RJ-45

Electrical Characteristics at 20°C

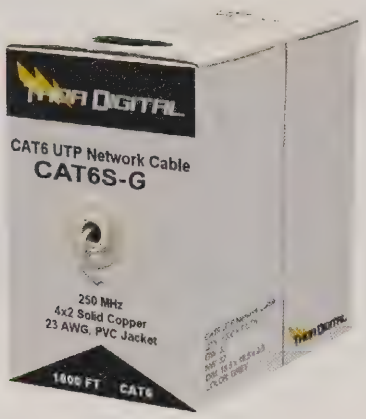
Conductor Resistance (Max):	98.6 Ω / km
Insulation Resistance (Min):	5000 MΩ / km
Capacitance:	< pF / m
Impedance:	100 Ω (±15%)
Operating Temperature:	-20 to +65°C

• PVC - Polyvinylchloride • AWG - American Wire Gauge • AL / PE - Aluminum / Polyethylene

THOR DIGITAL

CAT6-1000

Category 6 UTP Indoor/Outdoor Cable



CAT6 cable is a higher bandwidth cable than CAT5 or CAT5e cables and is used in the same applications. It's higher bandwidth makes it's performance in data transfer superior to older CAT5 type cables. It uses the same technology of twisting the cable pairs to reduce crosstalk and noise. At 250 MHz bandwidth it has twice the speed of CAT5e and it meets all TIA specifications.

Packaged in a 1000' dispenser carton, the cable is ideal for any data cabling installation that doesn't require plenum cables.

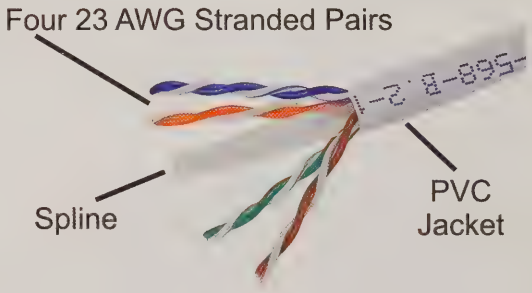
Specifications

Applications

Telephony Voice Wiring, Network T Base 10 / 100 / 1000, UL Subject 444, EIA / TIA568 & ISO / IEC 11801

Construction

Center Conductor:	4 pairs 0.0226" (23 AWG) bare copper
Dielectric:	0.0403" PE
Separator Cross:	PE
Outer Jacket:	0.248" PVC



Electrical Characteristics at 20°C

Conductor Resistance (Max):	98.6 Ω / km
Insulation Resistance (Min):	5000 MΩ / km
Capacitance:	< 55 pF / m
Impedance:	100 Ω (±15%)
Transport & Storage Temperature:	0 +50°C
Operating Temperature:	-20 to +65°C

Performance Characteristics

Frequency	Attenuation / 100m (MAX)	NEXT (MIN)	PS-NEXT	ELFEXT	PS-ELFEXT	Return Loss
1 MHz	1.9 dB	72 dB	69 dB	68 dB	65 dB	20 dB
10 MHz	5.9 dB	65 dB	62 dB	53 dB	50 dB	23 dB
16 MHz	7.5 dB	61 dB	58 dB	48 dB	45 dB	26 dB
25 MHz	9.3 dB	55 dB	52 dB	45 dB	42 dB	25 dB
40 MHz	12.1 dB	53 dB	50 dB	42 dB	39 dB	23 dB
60 MHz	14.8 dB	52 dB	49 dB	35 dB	32 dB	22 dB
100 MHz	19.3 dB	50 dB	47 dB	31 dB	28 dB	22 dB
150 MHz	23.6 dB	43 dB	40 dB	28 dB	25 dB	19 dB
200 MHz	27.5 dB	40 dB	37 dB	24 dB	21 dB	18 dB
250 MHz	30.6 dB	38 dB	35 dB	21 dB	18 dB	18 dB

• PVC - Polyvinylchloride • AWG - American Wire Gauge • AL / PE - Aluminum / Polyethylene

Blonder Tongue

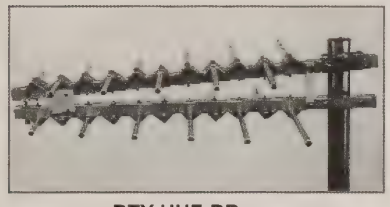
BTY Series Antennas

Single Channel VHF / UHF
Broadband/VHF / UHF / FM

High Gain, Low Sidelobes

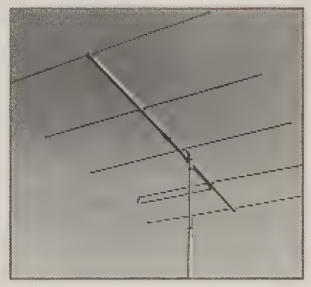
BTY-LP-BB
Stock No. 4874

- High Gain, Low Sidelobes
- Foam Filled Elements Dampen Vibration
- Cantilever Mount Availabl
- Joins with BTY-UHF-BB fo Complete VHF/UHF Antenna

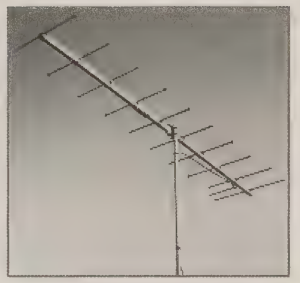


BTY-UHF-BB
Stock No. 4875

- High Gain, Low Sidelobes
- Joins with BTY-LP-BB for Complete VHF/UHF Antenna



BTY-5-LB
Stock No. 4866

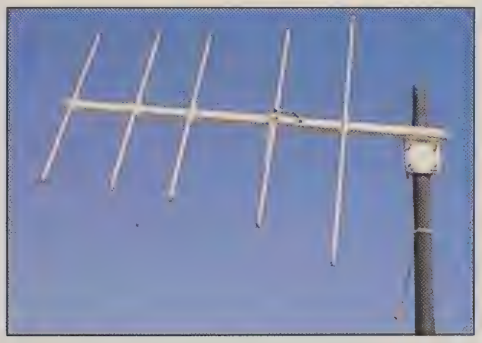


BTY-10-HB
Stock No. 4867

BTY-10-U
Stock No. 4873

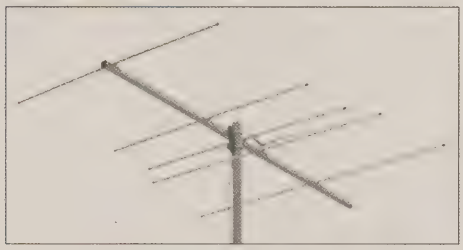
- Single Channel UHF Antenna
- Rear Mount Simplifies Tower Mounting

- Single Channel VHF Antenna
- Foam Filled Elements Dampen Vibration
- Cantilever Mount Available

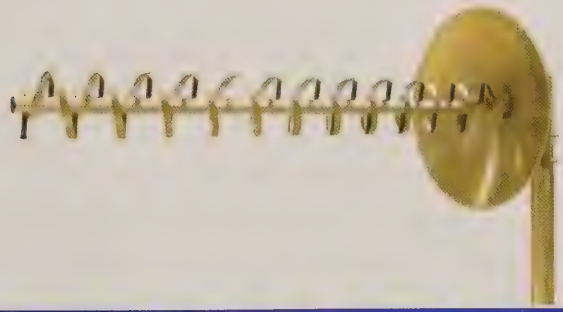


J56-162 162 MHz 5 Element Yagi
NOAA EAS Antenna Broadband

WADE Antenna, Inc.



J55-FM 88-108 MHz
EAS Antenna Broadband

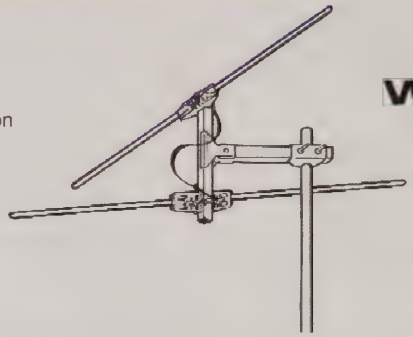


WH-14-69/24 24" Ground Plane
WH-14-69/32 32" Ground Plane
WH-14-69/43 43" Ground Plane
UHF Channels 14-69 Helical Antenna

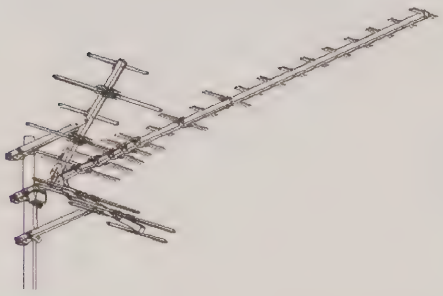
HD6010 HD FM Antenna

The HD-6010 is designed for receiving signals in all directions. Compact design is recommended for city and suburban reception areas. Popular turnstile design features unique one piece construction for easy installation. Mounts to maximum 2" diameter pipe.

- Boom Length: 10"
- Turning Radius: 41"
- Maximum Width: 67"
- Vertical Height: 10"
- Element Diameter: 3/8"
- Weight: 1.5 lbs



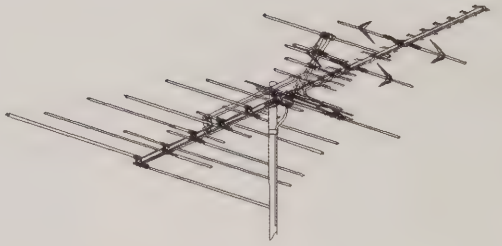
WINEGARD®
Clearly the World's Best



HD9032 HD Series UHF Antenna

Outstanding UHF reception from precise director spacing with efficient corner reflector system.Weak UHF signals captured and reflected with minimal loss to driven element for more uniform gain on UHF frequencies on Channels 14-69.

- Active Elements 35
- Boom Length114.5"
- Turning Radius 79.75"
- Maximum Width 15"
- Vertical Height 31.5"
- Element Diameter 3/8"
- Net. Weight 4.15 lbs.
- Shpg. Weight 6.6 lbs.
- Carton Dimensions 6.25"x6.25"x89"



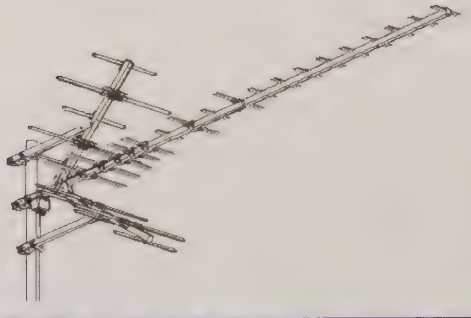
HD7084P Platinum Series HD VHF/UHF Antenna

The Winegard HD7084P is a 28 element VHF, 40 element UHF off-air HD/digital tv antenna designed for suburban areas where the signal may be up to 80 miles away from the broadcast source.Includes weather proof cartridge house for download module with 75 Ohm coaxial connection.

- Active Elements: 68
- UHF Elements: 40
- VHF Elements: 28
- Boom Length: 131"
- Turning Radius: 81"
- Maximum Width: 110"
- Vertical Height: 25.5"
- Element Diameter: 3/8"
- Output Impedance: 75 ohm

HD9095P Platinum Series HD UHF Cantilever Mount Antenna

High strength UHF yagi for channels 14-69 metropolitan to deepest fringe. Exceptional quality and a great antenna for long distance UHF/HD.



- Outstanding UHF reception achieved by precise director spacing and highly efficient corner reflectors
- Reception is enhanced with precise spacing and a highly-efficient corner reflector system. Weak UHF signals are captured and reflected with minimal loss to driven elemnent for increased uniform gain on all UHF frequencies on Channels 14-69.
- 75 ohm downlead coupler simply snaps into place for fast, easy assembly
- High-impact ABS girder design and support insulators
- Active Elements: 39
- Box size: 59¾ x 6½ x 6½
- Steel hardware is zinc plated for maximum corrosion resistance
- Boom Length: 95 in.
- Width: 27.75 in.
- Height: 31.75 in.
- Turning Radius: 92.75 in.
- Includes hardware for mounting to a mast; antenna has a 75 ohm coax connection

PA-20U-50 20 dB Gain-50 Ohm

PA-20U-75 20 dB Gain -75 Ohm

DTV Low Noise Preamplifier

EMCEE

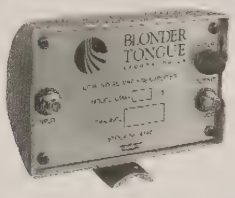
NOW Broadcast and CATV engineers have a comprehensive choice in professional quality DTV pre-amplifiers. Superior power handling and ultra low noise design allows for amplification of weak off-air signals mixed with strong local carriers without the use of an expensive pre-selector filter. The PA-20U provides superior power handling for multi-carrier mixed signal environments.

CMA-BB, CMA-Uc

Broadband VHF and UHF Preamplifiers

Blonder Tongue

The CMA Broadband Preamplifier Series includes professional quality, low noise, broadband VHF & UHF preamplifiers. These units have been designed to meet the needs of broadband system installations. The CMA Broadband Preamplifier Series provide exceptionally high signal handling capability and gain with good input match, making these preamplifiers ideal for use with wideband TV antennas. Two models are available, including: CMA-BB, Broadband VHF; and CMA-Uc, Broadband UHF. A 20 dB backmatched test port is supplied, permitting the unit's performance to be monitored without interrupting service.



CMA-BB, CMA-Uc

SCMA-Ub

Single Channel VHF/FM and UHF Preamplifiers with Guaranteed Noise Figure

Blonder Tongue

The SCMA Single Channel Preamplifier Series includes professional quality, very low noise, single channel UHF preamplifiers. These units have an all solid-state design utilizing two 'field-effect transistors' (FETs). These devices provide a guaranteed very-high signal-to-noise ratio. The actual noise figure of each individual unit is stamped on the case. The SCMA-Ub is optimized for a single UHF channel. These preamplifiers can accept a wide range of input signal levels and offer excellent gain, making these units ideal for difficult signal areas. Additionally, these preamplifiers have exceptional immunity to overloads caused by strong adjacent channel signals. The SCMA-Ub can also be ordered with an optional factory tuned internal trap to prevent overload or intermodulation problems from strong, local channels without significant noise figure degradation. A 20 dB backmatched test port is supplied, permitting the unit's performance to be monitored without interrupting service.

SCMA-Ub

CMA-b

Single Channel VHF/FM Preamplifier

Blonder Tongue

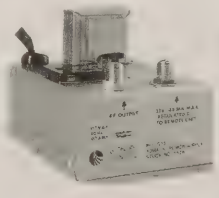
The CMA-b is a professional quality, low noise, single channel VHF/FM pre-amplifier. The CMA-b can accept a wide range of input signal levels and offers excellent gain, making this preamplifier ideal for difficult signal areas. Additionally, this unit has exceptional immunity to overloads caused by strong adjacent channel signals. A 20 dB backmatched test port is supplied, permitting the unit's performance to be monitored without interrupting service.

CMA-b

PS-1526, PS-1536

Preamplifier Power Supplies

The PS-1526 and PS-1536 are professional quality, DC power supplies designed to power antenna preamplifiers. Both units provide -21 VDC and allow for a combined VHF and UHF feed to be duplexed with the power feed. The PS-1536 has a dual output for powering two loads, with a maximum current rating of 100 mA. The PS-1526 has a single output for powering one load, with maximum current rating of 40 mA. The PS-1526 and PS-1536 are housed in an aluminum case with a panel mounted fuse and an auxiliary AC receptacle. Both units offer regulated and surge-protected power. The PS-1536 provides an additional level of short circuit protection on the regulator and a clamped output voltage to protect connected loads.



PS-1526

Blonder Tongue

PS-1536

1000H Series KU-Band PLL LNB

1208HAF

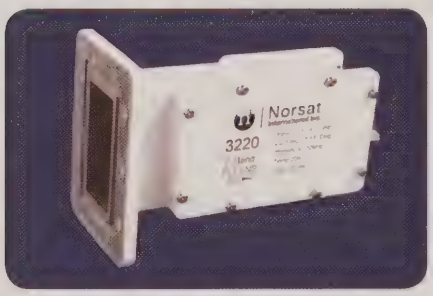
CONNECTOR	F - 75 Ohm N - 50 Ohm
FREQUENCY	A - 11.70 - 12.20 GHz B - 12.25 - 12.75 GHz C - 10.95 - 11.70 GHz
NOISE FIGURE	07 - 0.7 dB 08 - 0.8 dB 09 - 0.9 dB
L.O. STABILITY	1 - ±10 kHz 2 - ±25 kHz (See HS1000 for < 5 kHz L.O. stability)
LNB SERIES #	

1000HS Series KU-Band PLL LNB

HS1048AF

CONNECTOR	F - 75 Ohm N - 50 Ohm
FREQUENCY	A - 11.70 - 12.20 GHz B - 12.25 - 12.75 GHz C - 10.95 - 11.70 GHz
NOISE FIGURE	9 - 0.9 dB 8 - 0.8 dB 7 - 0.7 dB
L.O. STABILITY	5 - ±5 kHz 4 - ±4 kHz 3 - ±3 kHz 2 - ±2 kHz
LNB SERIES #	

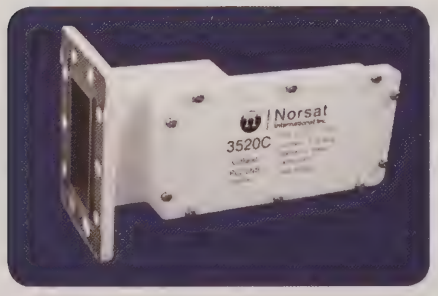
3000 Series C-Band PLL High Stability LNB



3120F

CONNECTOR	F - 75 Ohm
NOISE TEMPERATURE	20 - 20 K 25 - 25 K 30 - 30 K
PART #	L.O. STABILITY
34XX	0.4 ppm - ±2 kHz
36XX	0.6 ppm - ±3 kHz
38XX	0.8 ppm - ±4 kHz
31XX	1.0 ppm - ±5 kHz
32XX	2.0 ppm - ±10 kHz
35XX	5.0 ppm - ±25 kHz
LNB SERIES #	

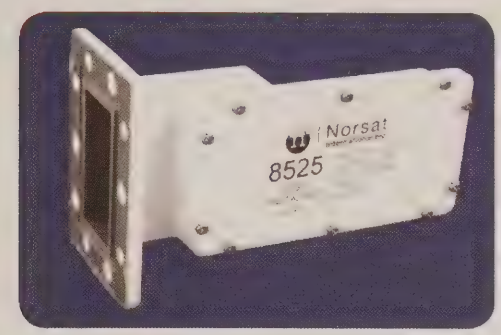
3000C Series C-Band PLL High Stability LNB



3120CF

CONNECTOR	F - 75 Ohm
INPUT FREQUENCY	3.625 - 4.2 GHz
NOISE TEMPERATURE	20 - 20 K 25 - 25 K
L.O. STABILITY	1.0 ppm - ±5 kHz 2.0 ppm - ±10 kHz
LNB SERIES #	

DRO 8000 Series C-Band Digital LNB



Norsat International Inc.

DRO 4000 Series KU-Band Digital LNB

8215F

CONNECTOR	F - 75 Ohm N - 50 Ohm
NOISE TEMPERATURE	15 - 15K* 20 - 20K 25 - 25K 30 - 30K
L.O. STABILITY	1 - ±150 kHz* 2 - ±250 kHz 5 - ±500 kHz
LNB SERIES #	

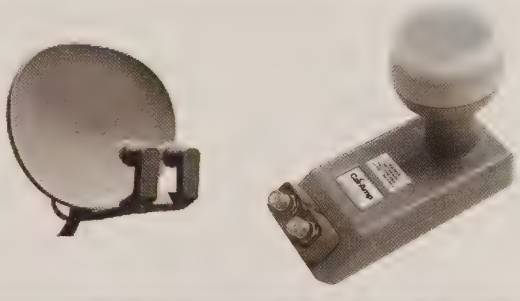
4106A

FREQUENCY	A - 11.70 - 12.20 GHz B - 12.25 - 12.75 GHz C - 10.95 - 11.70 GHz
NOISE FIGURE	06 - 0.6 dB 07 - 0.7 dB 08 - 0.8 dB
L.O. STABILITY	1 - ±150 kHz 2 - ±250 kHz 5 - ±500 kHz
LNB SERIES #	

CalAmp

150517 Dual Output DBS LNBF

- Dual Output LNBF
- Lightweight and small size for easy installation
- Compatible with DirecTV Multi-Satellite, DirecTV Para TODOS, and DirecTV Dish Antennas
- Feed diameter is 30 mm



MC

7893D

TVRO Interference Filters

- Economical Price
- Quick Delivery
- Less than 6 inches Long
- Low Differential Group Delay
- Low Insertion Loss
- Other Frequency Bands Available Upon Request (Including International)
- Highly Selective

13961 Series

TVRO Interference Filters for Multifeed Applications

- Quick Delivery
- Lightweight, Low Profile
- Ideal for Digital Applications (Low
- Differential Group Delay)
- Low Insertion Loss
- High Interference Rejection
- Other Frequency Bands Available Upon Request (Including International)

VIKING SATCOM

P100FAE 1.0 Meter
P120FAE 1.2 Meter

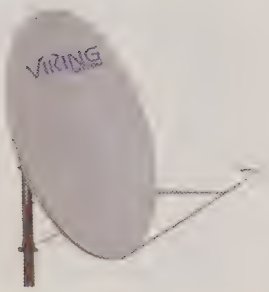
Offset Receive Only Antennas

- Precision Compression Molded Reflector
- Compact Packaging for Low Shipping Costs
- Various mounting options available

P180FAE 1.8 Meter

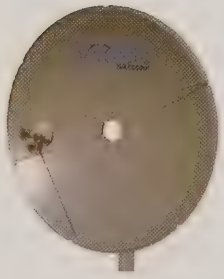
Offset Receive Only Antennas

- Precision Compression Molded Offset Reflector
- Fully Galvanized Steel Az/El mount
- Upgradable to Transmit Receive



AND-2400F 2.4 Offset Antennas

- Hydroformed Aluminum Construction
- Heavy Duty Az-El Fine Tune Mount
- Extremely Stable Pointing Accuracy



VS-180RXOF 1.8 Meter

Offset Receive Only Antennas

- 6 Panel Sectional Reflector
- Compact Packaging - UPS Shippable
- Fixed Az/El Mount

VS-300NAV 3.0 Meter
VS-340NAV 3.4 Meter
VS-370NAV 3.7 Meter

Prime Focus Motorized Dual Axis Antenna

- Dual Axis Motorized Az/El Navigator Mount
- Azimuth Travel 120° / Elevation Travel 5 – 90°
- Mounts on a 6 5/8" OD Mounting Mast
- 8 Panel Prime Focus Sectional Reflector

P300PLR Polar Mount
P300FAE AZ/EL Mount

3.0 Meter Prime Focus Receive Only Antenna

- 8 Piece Precision Compression Molded Centerfed Reflector
- Low Transportation Cost with Eight Panel Reflector
- Fixed Az/El or Polar Mount Options

VIKING SATCOM

VS-450TX 4.5 Meter
C-Band TX/RX Antenna

- 8 Piece Precision Compression Molded Centerfed Reflector
- Low Transportation Cost with Eight Panel Reflector
- Includes Kingpost Mount

VS-450TX 4.5 Meter
C-Band TX/RX Antenna

- Fast Two Man Installation
- Tripod & Pier Mounts
- TX C-Band Linear or Circular Frequencies

DH42FAE 4.2 Meter
DH45GAE 4.5 Meter
DH50GAE 5.0 Meter
Prime Focus Receive Only Antenna

- Aluminum 1 Piece Reflector
- High Efficiency Parabolic Reflector
- C or Ku Band Applications
- Motorized or Fixed Mounting Options
- MultiFeed and De-icing Options

FEED-4CKU-MOTO
FEED-4CKU-MOTO-WB
FEED-4CCKU-MOTO

- Motorized Receive Only 4 Port
- C/Ku band Prime Focus Feed
- 24 volt Motor and Potentiometer for Fine Polarization Adjustment
- For New Antennas or Upgrading Legacy Systems

FEED-SUP-*
Multiple Satellite Feed System

- Receive Multiple Satellites from one Antenna
- Available for most New or already installed Prime Focus Antennas
- Includes Support Struts, Feed Plate Assembly, Feedhorns and Cover

DIRECTV

DTV66E
WORLDIRECT (2) LNB, KU Dish
Receives 95°, 101°

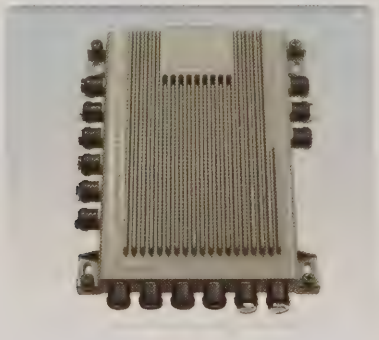
SL+SL3S
Slimline® Dish & SWM LNB
Receives 99°, 101°, 103°
(8) Tuner Maximum

SL+SL5
Slimline® KA/KU Dish
Receives 99°, 101°, 103°, 110°, 119°
(8) Tuner Maximum

SL+SL5S
Slimline® Dish & SWM LNB
Receives 99°, 101°, 103°, 110°, 119°
(8) Tuner Maximum

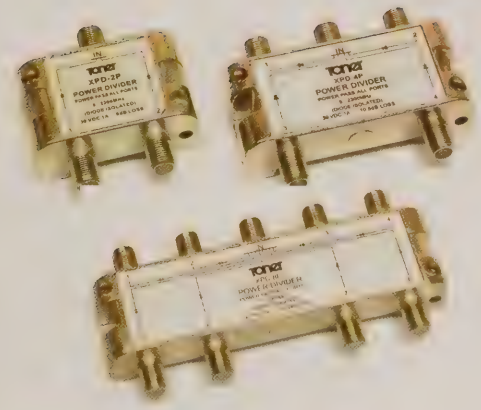
SL3SLNB
Slimline® 3 LNB with SWM
(99°, 101°, 103°)

SL5LNB
Slimline® 5 LNB
Voltage & 22 kHz Switched



SWM-16
Single Wire Multiswitch
(4) SL5 Inputs, (2) Flex Inputs
Auto-Gain Stacked for Outputs (16)

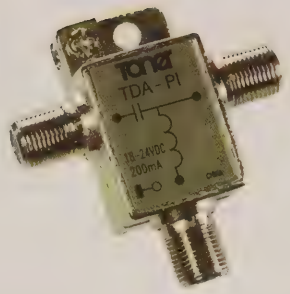
NPR6A
Non Penetrating Mount for Dish
Network AT9, 1.75" to 2" Mast



XPD Series Power Dividers

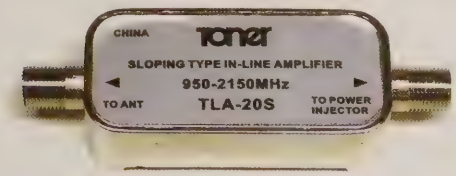
Power dividers are used to provide input signals to several receivers from an antenna/LNB combination. Available in 2, 4 & 8 way.

- Frequency range 5 MHz - 2300 MHz
- Connectors F Type
- Impedance 75 Ohms
- Power Passing All Ports Diode Isolated 30 Vdc 1A



TDA-PI Coaxial Power Inserter

- Can be used for powering model
- TDA-115R Drop Amps
- 5-1000 MHz Bandwidth
- Insertion Loss <1.0 dB
- 200 mAdc maximum
- F Connectors



TLA-20S Line Amplifier

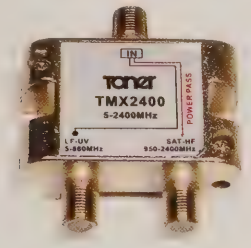
- 950-2150 MHz
- 20 dB Gain
- 8 dB Slope
- 13-18 VDC Pass Through 500 mA
- Power 40 mA
- 6 dB Noise Figure

TVA-20DC Variable Attenuator

- 5-2150 MHz
- Power Passing 500 mA
- Zinc Die Cast Housing
- Machined F Connectors
- 0-20 dB Attenuation

TVEQ-20 Variable Equalizer

- 40-860 MHz
- 2-20 dB Equalization
- Insertion Loss <2 dB
- Return Loss >14 dB



TMX2400 TV to Satellite/DBS Multiplexer

- 40-860 MHz
- 950-2400 MHz Satellite Port
- 2 dB Insertion Loss Maximum
- 30 dB Isolation
- 500 mA 18 VDC Pass Satellite Port

PICO DIGITAL

TSMS2150X Series Rack-Mounted Multiswitches

- Wide frequency range 950~2150MHz (TSMS-2150X-16A)
- Wide frequency range 40~2150MHz (TSMS-2150X-8AUV)
- 3 Input Simple interface design provides 2 satellite polarity inputs and 16 outputs, for quick installation (TSMS-2150X-16A)
- 3 Inport Simple interface design provides 2 satellite polarity inputs plus 1 off-air antenna and 8 outputs,for quick installation (TSMS-2150X-16AUV)
- Antenna signal combines with satellite on output, eliminating external combining and reducing cost and clutter (TSMS-2150X-16AUV)
- PIN diode matrix reduces polarity transfer time and digital artifacts, providing consistent picture quality
- 500 mA voltage power pass-through reduces cost by providing satellite receiver path for LNB power
- Built-in amplifier compensates for insertion losses, reducing need of external amplification
- External UL approved power supply reduces heat buildup, thus increasing unit life

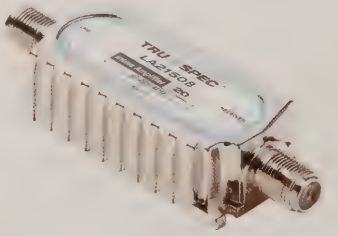
TSMS-2150X-8AUV 3x8

TSMS-2150X-16A 2x16

HFS Series 2150 MHz 90 dB EMI Satellite Splitters

Part Number	Description
HFS-2/2150	2-Port Splitter (1 Port Power Passing)
HFS-2P/2150	2-Port Splitter (All Port Power Passing)
HFS-4/2150	4-Port Splitter (1 Port Power Passing)
HFS-4P/2150	4-Port Splitter (All Port Power Passing)

LA-2150 Series
Satellite IF Inline Amplifiers



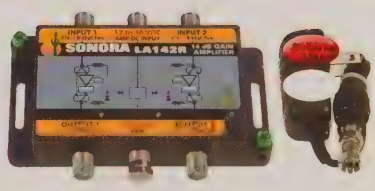
	Bandwidth	Gain	Noise Figure	Power Input	Power Required	Weight
LA-2150A	40-2150	20 dB LA-2150A	5 dB	12 ~ 18 VDC	0.7 Watt	0.25 lbs
LA-2150B	40-2150	16-20 dB Sloped LA-2150B				
LA-2150D	950-1250	16-20 dB Sloped LA-2150D				

LA-141R-T

Single Line Satellite Amplifier, 14 dB Gain

Model LA141R boosts 54 to 3000 MHz signals offsetting the loss of 150 feet of RG-6 while passing data modem and receiver control signals.

- Wide bandwidth ~ 4 to 3000 MHz forward
  22 kHz to 42 MHz return
- High Output Ability ~ 0 dBm
- DC Passing RF Out to RF IN ~ DiSEqC &2.3 MHz pass
- High Efficiency Power Supply ~ low current use
- Multiple power options ~ line or external DC



LA-142R-T

Dual Line Satellite Amplifier, 14 dB Gain

Model LA142R boosts cable and DBS signal levels offsetting the loss of 150 feet of RG-6 while passing data modem and receiver control signals from the receiver to the switch.

- Wide bandwidth ~ 54 to 3000 MHz forward
  22 kHz to 42 MHz return
- High Output Ability ~ 0 dBm
- DC Passing RF Out to RF IN ~ DiSEqC &2.3 MHz pass
- High Efficiency Power Supply ~ low current use
- Multiple power options ~ line or external DC

LA-145R-T

Five Line Satellite Amplifier, 14 dB Gain

Model LA145R may be placed after a DBS dish or OTA antenna to extend the signals the equivalent of 150 feet of RG-6 cable.

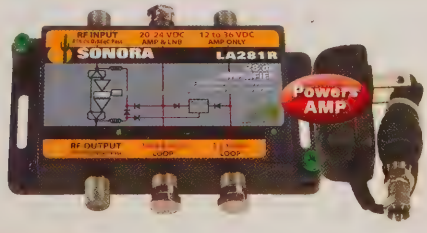
- Wide bandwidth ~ 54 to 2150 MHz forward
  2 kHz to 42 MHz return
- High Input Ability ~ -18 dBm
- DDC & 22 kHz/DiSeQc passing ~ low insertion
- Compact case ~ die cast aluminum
- Green Power Supply ~ 12 to 29 VDC Input

LA-146R-T

Six Line Satellite Amplifier, 14 dB Gain

Model LA146Rmay be placed after a DBS dish or OTA antenna to extend the signals the equivalent of 150 feet of RG-6 cable.

- Wide bandwidth ~ 54 to 2150 MHz forward
  2 kHz to 42 MHz return
- High Input Ability ~ -18 dBm
- DDC & 22 kHz/DiSeQc passing ~ low insertion
- Compact case ~ die cast aluminum
- Green Power Supply ~ 12 to 29 VDC Input

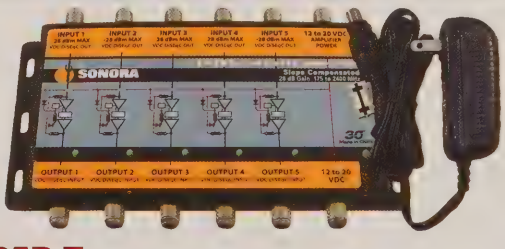


LA281R-T

Single Line Satellite Amplifier, 28 dB Gain

Model LA281R boosts cable and DBS signal levels offsetting the loss of 300 feet of RG-6 while passing data modem and receiver control signals from the receiver to the switch.

- Wide bandwidth ~ 54 to 3000 MHz forward
  22 kHz to 42 MHz return
- High Output Ability ~ 0 dBm
- DC Passing RF Out to RF IN ~ DiSEqC &2.3 MHz pass
- High Efficiency Power Supply ~ low current use
- Multiple power options ~ line or external DC



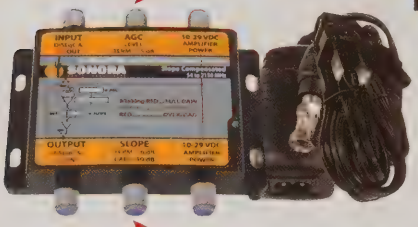
LA285R-T

Five Line Satellite Amplifier, 28 dB Gain

Model LA285a may be placed after a DBS dish or ATSC antenna to extend the signals the equivalent of 300 feet of RG-6 cable.h.

- ATSC / Ka/Ku bandwidth ~ 175 to 2150 MHz
- High Input Ability ~ -38 dBm
- DC & 22 kHz/DiSeQc passing ~ low insertion
- Indoor / Outdoor case ~ die cast aluminum
- Multiple power options ~ line or external DC

Terminator for **-20 dBm** Output
No Terminator for **-15 dBm** Output



Terminator for **6 dB** Slope
No Terminator for **-10 dB** Slope

LAL20A-T

Single Line Satellite Amplifier, Fixed -20 dB Output

SONORA model LAL20A placed within 150 feet from the dish provides an automatic gain controlled output of -20 dBm (with 32 transponders).

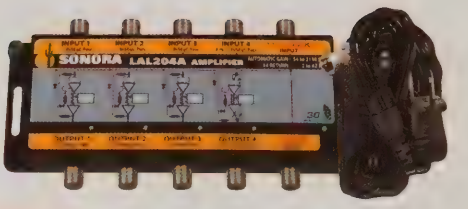
- CATV / Ka/Ku bandwidth ~ 2 to 2150 MHz
- Automatic Gain ~ 20 dB input window
- DC & 22 kHz/DiSeQc passing ~ low insertion
- Signal Level Meter ~ built in RED / GREEN
- Multiple power options ~ in-line or external DC

LAL205A-T

Five Line Satellite Amplifier, Fixed -20 dB Output

Model LAL205A provides (5) automatic gain controlled outputs of -20 dBm @ 2150 MHz with 32 equal input transponders. The LED indicators Blink RED @ inputs below -47 dBm. LED indicators turn Green with inputs between -22 dBm to -47 dBm. LED indicators turn RED with inputs greater than -22 dBm.

- WOTA, CATV, DBS bandwidth ~ 54 to 2150 MHz
- Return Path ~ DC & 22 kHz/DiSeQc
- LED Signal Input Metering ~ Red & Green LEDs
- Green Power Supply ~ 12 to 29 VDC Input
- Compact case ~ die cast aluminums



LAL204A-T

Four Line Satellite Amplifier, Fixed -20 dB Output

Model LAL204A provides (4) automatic gain controlled outputs of -20 dBm @ 2150 MHz with 32 equal input transponders. The LED indicators Blink RED @ inputs below -48 dBm. LED indicators turn Green with inputs between -22 dBm to -48 dBm. LED indicators turn RED with inputs greater than -22 dBm.

- ATSC / Ka/Ku bandwidth ~ 54 to 2150 MHz
- DC to DC Power Supply ~ 12 to 29 VDC Input
- DC & 22 kHz/DiSeQc passing ~ low insertion
- Indoor / Outdoor case ~ die cast aluminum
- LED Signal Input Metering ~ Red & Green LEDs

TAMP6R30

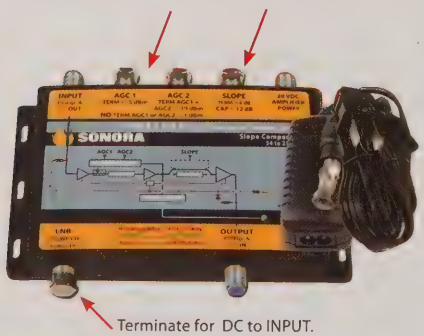
Six Line Satellite Amplifier, Fixed -20 dB Output

Model TAMP 6 provides an automatic gain controlled output that is user adjustable from -15 dBm to -24 dBm @ 2150 MHz. Slope is fi eld selected to either 12 dB or 8 dB.

- Ka/Ku bandwidth ~ 250 to 2150 MHz
- Automatic Gain ~ Adjustable window
- DC & 22 kHz/DiSeQc passing ~ low insertion
- Selectable Slope Pre-Emphasis ~ 8 or 12 dB
- LED Signal Metering ~ Blinking Red, Green, Red

OUTPUT
Terminator for **-5 dBm**
Two Terminators for **-10 dBm**
No Terminators for 1 dBm

SLOPE
Terminator for **10 dBm**
No Terminators **15 dBm**



Terminate for DC to INPUT.

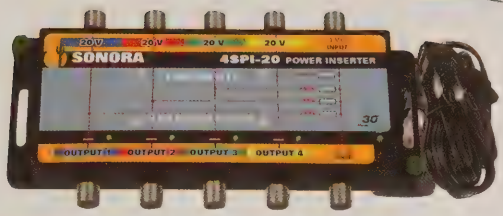
PAL1510-T

Single Line Satellite Amplifier, Fixed Tunable Output

Model PAL1510-T provides a user selectable automatic gain controlled output of +1 dBm, -5 dBm, or -10 dBm @ 2150 MHz. Slope is fi eld selected to either 10 dB or 15 dB.

- Indoor/Outdoor ~ Die-cast Aluminum
- Selectable Output Level ~ 1, -5, -10 dBm switched
- Selectable Slope ~ 10 / 15 dB switched
- Selectable DC OUT ~ Off or 19 Vdc
- Wide Frequency band ~ DBS Ka/Ku
- LED signal meter ~ GREEN = AGC Lock

SONORA design associates

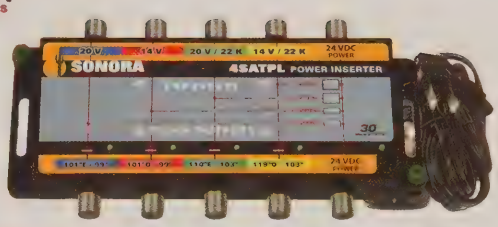


4SPI-20

Four Line Satellite Polarity Locker for Dish Network

Model 4SPI-20 powers either a multiple input LNB or (4) discrete LNBs' with 20 Vdc and polarity locks the four LNB outputs.

- DBS Compatibility ~ 4 Polarity stacked LNBs
- 2 Amp Power Supply ~ powers LNBs & line amplifiers
- Locks LNBs ~ one polarity on each of (4) coax
- Blocks 22 kHz ~ from multiple switches
- Dual Ground Screw Case ~ Die cast Aluminum

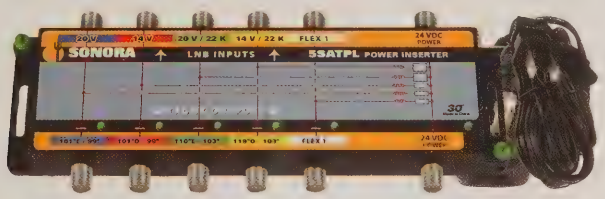


4SATPL-T

Four Line Satellite Polarity Locker for DirecTV

Model 4SATPL-T powers a DIRECTV® SlimLine® dish with strong DC levels and polarity locks the four dish outputs relieving the receivers from powering the LNB.

- DBS Compatibility ~ 4 Polarity DIRECTV®SlimLine®
- 2 Amp Power Supply ~ powers LNBs & line amplifiers
- Locks LNBs ~ one polarity on each of (4) coax
- Blocks 22 kHz ~ from multiple switches
- Indoor / Outdoor case ~ Die cast Aluminum

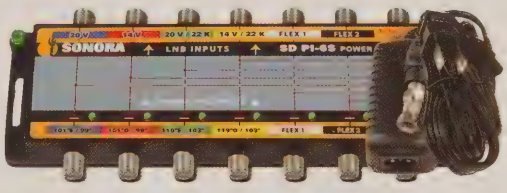


5SATPL

Five Line Satellite Polarity Locker for DirecTV

Model 5SATPL-T powers a DIRECTV® SL5 LNB, polarity locks the four dish outputs and provides 20 V to power the 95° LNB on the DTV66E dish.

- DBS Compatibility ~ DIRECTV®SL5 & 95°
- 2 Amp Power Supply ~ powers LNBs & line amplifiers
- Power LEDs per polarity ~ green if NO short circuits
- Locks SL5 LNBs ~ one polarity on each of (4) coax
- Indoor / Outdoor case ~ Die cast Aluminum



SD-PI6S-T

Six Line Satellite Polarity Locker for DirecTV

Model SD PI-6S powers a DIRECTV® SL5 LNB, polarity locks the four dish outputs and provides 20 V FLEX1 and 13 V on FLEX2 inputs to power the 95° LNB on the DTV66E dish or other LNBs.

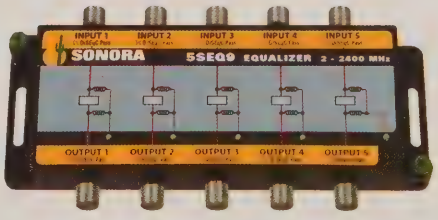
- DBS Compatibility ~ DIRECTV®SL5, & Flex 1 & 2
- 2 Amp Power Supply ~ powers LNBs & line amplifiers
- Power LEDs per polarity ~ green if NO short circuits
- Locks SL5 LNBs ~ one polarity on each of (6) coax
- Indoor / Outdoor case ~ Die cast Aluminum

5SEQ9

Five Line Satellite Equalizer, 9 dB

Model 5SEQ9 attenuates signals to equalize coax cable loss the equivalent of 150 feet of RG-6.

- Compatibility ~ CATV , DBS
- High Return Loss ~ reduces reflections
- DC & 22 kHz passing ~ use before power inserter
- Coax Cable Compensation ~ 150 feet RG-6
- Die cast Aluminum Case ~ SCTE Indoor "F" compliant



Middle Atlantic Products

ERK Series Stand-Alone / Gangable Rack Enclosures

ERK = Economical Rack

This economical stand-alone rack can also be ganged to create partitioned multi-bay installations for thermal management control, future growth, or other purposes.

Specify an ERK when a strong, basic rack is required, and where seismic certification and solid sides are required or preferred.

Structural Features
- Fully welded construction for strength
- Standard front adjustable heavy-gauge, 10-32 threaded rackrail with numbered rackspace increments speeds equipment mounting
- Finished in a durable black textured powder coat

Thermal Management
- Comes with standard configurable rear door, compatible with optional cooling and filter kits
- Enclosure sides include top and bottom venting
- Solid, plexi, and vented front door options are available
- Vented and fan top options are available

Cable Management
- Multiple lacing points and slotted rail brackets add cable management convenience to ERKs

Regulatory / Certifications
- Static load capacity - 10,000 lbs.
- UL Listed in the US and Canada. UL Listed load capacity - 2,500 lbs.
- Seismic certified to the following codes and standards: 2007 & 2010 CBC; 2006, 2009 & 2012 IBC; ASCE 7-05 (2005 Edition) & ASCE 7-10 (2010 Edition) and the 2006 & 2009 editions of NFPA 5000 for use in areas of high seismicity – Zone 4 or Seismic Design Category (SDC) "D". These are designed for Mission Critical and/ or High-Importance Installations in locations with the highest level of seismicity and top floor or rooftop installations including those within UBC and CBC Essential facilities or IBC, ASCE 7, and NFPA 5000 Seismic Use Group III facilities. For all codes, the Importance factor (Ip) is 1.5. Seismic Certified load capacity of 600 lbs. when used with ERK-Z4 seismic floor anchor brackets.
- GREENGUARD Indoor Air Quality Certified for Children and Schools (the most strict level)

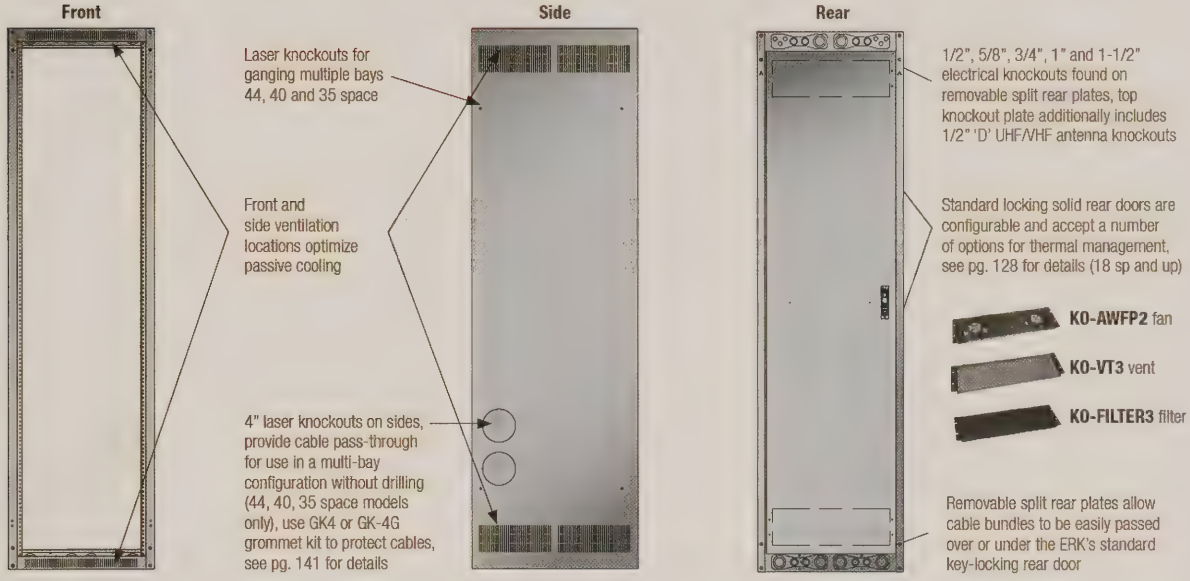
Part #	Racking Height	Overall Height	Useable Depth	Overall Depth	Skirted WheelBase*	Additional Rackrail
ERK-1820	31-1/2" (18 space)	35-5/8"	18-1/2"	20"	CBS-ERK-20	ERK-RR18
ERK-1825	31-1/2" (18 space)	35-5/8"	23-1/2"	25"	CBS-ERK-25	ERK-RR18
ERK-2120	36-3/4" (21 space)	40-7/8"	18-1/2"	20"	CBS-ERK-20	ERK-RR21
ERK-2125	36-3/4" (21 space)	40-7/8"	23-1/2"	25"	CBS-ERK-25	ERK-RR21
ERK-2720	47-1/4" (27 space)	51-3/8"	18-1/2"	20"	CBS-ERK-20	ERK-RR27
ERK-2725	47-1/4" (27 space)	51-3/8"	23-1/2"	25"	CBS-ERK-25	ERK-RR27
ERK-3520	61-1/4" (35 space)	65-3/8"	18-1/2"	20"	CBS-ERK-20	ERK-RR35
ERK-3525	61-1/4" (35 space)	65-3/8"	23-1/2"	25"	CBS-ERK-25	ERK-RR35
ERK-4020	70" (40 space)	74-1/8"	18-1/2"	20"	CBS-ERK-20	ERK-RR40
ERK-4025	70" (40 space)	74-1/8"	23-1/2"	25"	CBS-ERK-25	ERK-RR40
ERK-4420	77" (44 space)	81-1/8"	18-1/2"	20"	CBS-ERK-20	ERK-RR44
ERK-4425	77" (44 space)	81-1/8"	23-1/2"	25"	CBS-ERK-25	ERK-RR44

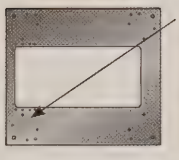
All models available without rear door,use suffix part # 'LRD'

**Skirted Wheelbase adds 3-3/4"*

ERK Series Stand-Alone / Gangable Rack Enclosures

Middle Atlantic Products

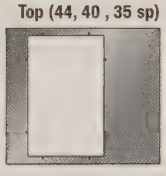



Base of Rack

Stud in the base of rack facilitates proper grounding and bonding of electronic equipment, as per NEBS and NEC standards

Top (27, 21, 18 sp)

27, 21 and 18 space models feature a solid top with 2 laser knockouts that accept two 4-1/2" fans, see pgs. 120 for details

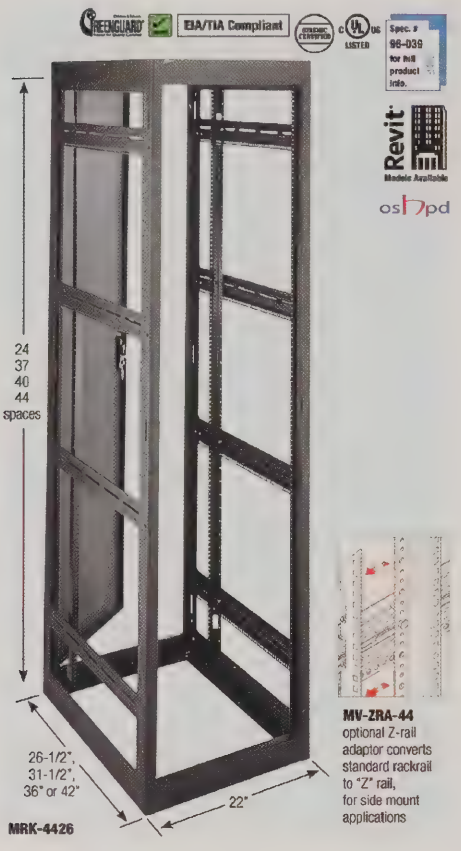

Top (44, 40 , 35 sp)

Configurable open tops on all 44, 40 and 35 space ERKs accept a number of options for thermal managment, see pgs. 126-127 for details

	Front Doors				Rear Door	64% Open			Fan Tops		
			25% Open	64% Open	Top & Bottom	Area Perf	Solid	Vented	w/ (3) 4-1/2 Fans	w/ (2) 6" Fans	w/ (1) 10" Fan
Part #	Solid	Plexi	Area Perf	Area Perf	Slot Vented	Top	Top	Top	(285 CFM Total)	(440 CFM Total)	(550 CFM Total)
ERK-1820	FD-18	PFD-18	VFD-18	LVFD-18	ERK-VRD-18	ERK-LVT	--	--	--	--	--
ERK-1825	FD-18	PFD-18	VFD-18	LVFD-18	ERK-VRD-18	ERK-LVT	--	--	--	--	--
ERK-2120	FD-21	PFD-21	VFD-21	LVFD-21	ERK-VRD-21	ERK-LVT	--	--	--	--	--
ERK-2125	FD-21	PFD-21	VFD-21	LVFD-21	ERK-VRD-21	ERK-LVT	--	--	--	--	--
ERK-2720	FD-27	PFD-27	VFD-27	LVFD-27	ERK-VRD-27	ERK-LVT	--	--	--	--	--
ERK-2725	FD-27	PFD-27	VFD-27	LVFD-27	ERK-VRD-27	ERK-LVT	--	--	--	--	--
ERK-3520	FD-35	PFD-35	VFD-35	LVFD-35	ERK-VRD-35	ERK-LVT	ERK-ST	ERK-VT	ERK-4FT-285CFM	ER-6FT-440CFM	ERK-10FT-550CFM
ERK-3525	FD-35	PFD-35	VFD-35	LVFD-35	ERK-VRD-35	ERK-LVT	ERK-ST	ERK-VT	ERK-4FT-285CFM	ER-6FT-440CFM	ERK-10FT-550CFM
ERK-4020	FD-40	PFD-40	VFD-40	LVFD-40	ERK-VRD-40	ERK-LVT	ERK-ST	ERK-VT	ERK-4FT-285CFM	ER-6FT-440CFM	ERK-10FT-550CFM
ERK-4025	FD-40	PFD-40	VFD-40	LVFD-40	ERK-VRD-40	ERK-LVT	ERK-ST	ERK-VT	ERK-4FT-285CFM	ER-6FT-440CFM	ERK-10FT-550CFM
ERK-4420	FD-44	PFD-44	VFD-44	LVFD-44	ERK-VRD-44	ERK-LVT	ERK-ST	ERK-VT	ERK-4FT-285CFM	ER-6FT-440CFM	ERK-10FT-550CFM
ERK-4425	FD-44	PFD-44	VFD-44	LVFD-44	ERK-VRD-44	ERK-LVT	ERK-ST	ERK-VT	ERK-4FT-285CFM	ER-6FT-440CFM	ERK-10FT-550CFM

Middle Atlantic Products

MRK Series Gangable Rack Enclosures



MRK = Multi-Bay Rack

The MRK series is a workhorse, with a rugged, space-saving design, as evidenced by its high seismic load rating. Its broad capabilities and wide range of options make it a favorite ofinstalling contractors, particularly on larger-scale multi-bay jobs.

Specify an MRK when these capabilities are required, and where seismic certification and open or removable sides are required or preferred.

Structural Features
- Fully welded construction for strength
- Standard front and rear adjustable, heavy-gauge, 10-32 threaded rackrail with numbered rackspace increments speeds equipment mounting
- Racks gang together when fully loaded
- Finished in a durable black textured powder coat

Thermal Management
- Comes with standard configurable rear door, compatiblewith optional cooling and filter kits
- Solid (steel or plexi) and vented front door options are available
- Solid, vented and fan top options are available

Cable Management
- Multiple lacing points and slotted rail brackets for cable management flexibility

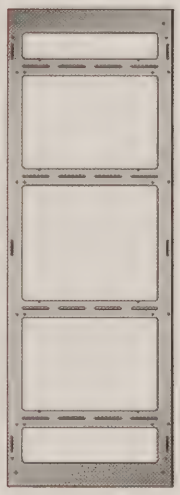
Regulatory / Certifications
- Static load capacity - 10,000 lbs.
- UL Listed in the US and Canada. UL Listed load capacity - 2,500 lbs.
- OSHPD approved for fixed equipment anchorage in California healthcare facilities
- Seismic certified to the following codes and standards: 2007 & 2010 CBC; 2006, 2009 & 2012 IBC; ASCE 7-05 (2005 Edition) & ASCE 7-10 (2010 Edition) and the 2006 & 2009 editions of NFPA 5000 for use in areas of high seismicity – Zone 4 or Seismic Design Category (SDC) "D". These are designed for Mission Critical and/ or High-Importance Installations in locations with the highest level of seismicity and top floor or rooftop installations including those within UBC and CBC Essential facilities or IBC, ASCE 7, and NFPA 5000 Seismic Use Group III facilities. For all codes, the Importance factor (Ip) is 1.5. Seismic Certified load capacity of 1,050 lbs. when used with MRK-Z4 seismic floor anchor brackets.
- GREENGUARD Indoor Air Quality Certified for Children and Schools (the most strict level)

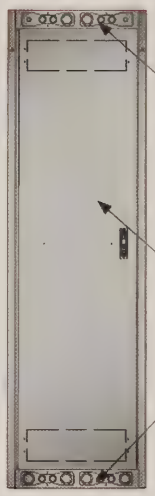
Part #	Racking Height	Overall Height	Useable Depth	Overall Depth	Overall Width	Side Panels	Caster Base	Additional10/32 Threaded Rackrail
MRK-2426	42" (24 space)	48-1/8"	24"	26-1/2"	22"	SPN-24-267	CBS-MRK-26	MV-RR24
MRK-2431	42" (24 space)	48-1/8"	29"	31-1/2"	22"	SPN-24-312	CBS-MRK-31	MV-RR24
MRK-3726	64-3/4" (37 space)	70-7/8"	24"	26-1/2"	22"	SPN-37-267	CBS-MRK-26	MV-RR37
MRK-3731	64-3/4" (37 space)	70-7/8"	29"	31-1/2"	22"	SPN-37-312	CBS-MRK-31	MV-RR37
MRK-4026	70" (40 space)	76-1/8"	24"	26-1/2"	22"	SPN-40-267	CBS-MRK-26	MV-RR40
MRK-4031	70" (40 space)	76-1/8"	29"	31-1/2"	22"	SPN-40-312	CBS-MRK-31	MV-RR40
MRK-4036*	70" (40 space)	76-1/8"	33 1/2"	36"	22"	SPN-40-36	CBS-MRK-36	MV-RR40
MRK-4042*	70" (40 space)	76-1/8"	39-1/2"	42"	22"	SPN-40-423	CBS-MRK-42	MV-RR40
MRK-4426*	77" (44 space)	83-1/8"	24"	26-1/2"	22"	SPN-40-267	CBS-MRK-26	MV-RR40
MRK-4431*	77" (44 space)	83-1/8"	29"	31-1/2"	22"	SPN-44-312	CBS-MRK-31	MV-RR44
MRK-4436*	77" (44 space)	83-1/8"	33-1/2"	36"	22"	SPN-44-423	CBS-MRK-36	MV-RR44
MRK-4442*	77" (44 space)	83-1/8"	39-1/2"	42"	22"	SPN-44-423	CBS-MRK-42	MV-RR44

**available without rear door, use suffix part # 'LRD'*

MRK Series Gangable Rack Enclosures

Middle Atlantic Products

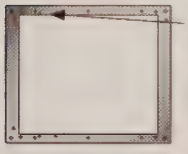




1/2", 5/8", 3/4", 1" and 1-1/2" electrical knockouts found on removable split rear plates, top knockout plate additionally includes 1/2" 'D' UHF/VHF antenna knockouts

Standard solid rear doors are configurable and accept a number of options for thermal management see pg. 128 for details (21 sp and up)

Removable split rear plates allow cable bundles to be easily passed over or under the MRK's standard key-locking rear door



Stud in the base of rack facilitates proper grounding and bonding of electronic equipment, as per NEBS and NEC standards. See pg. 117 for grounding and bonding options.

Rack base template available to locate floor mounting, see web for details.

Configurable open tops accept a number of options for thermal and cable management. See pgs. 126-127 for details.

	Front Doors					Rear Doors*			64% Open	Fan Tops		
			25% Open	64% Open	Plexi	64% Open	79% Open Area	Solid	Area Per	w/ (4) 4-1/2 Fans	w/ (3) 6" Fans	w/ (1) 10" Fan
Part #	Solid	Plexi	Area Perf	Area Perf	Vented	Area Perf	Split Perf	Top	Top	(380 CFM Total)	(660 CFM Total)	(550 CFM Total)
MRK-2426	FD-24	PFD-24	VFD-24	LVFD-24	--	--	MW-CLVRD-24	MW-ST	MW-LVT	MW-4FT-380CFM	MW-6FT-660CFM	MW-10FT-550CFM
MRK-2431	FD-24	PFD-24	VFD-24	LVFD-24	--	--	MW-CLVRD-24	MW-ST	MW-LVT	MW-4FT-380CFM	MW-6FT-660CFM	MW-10FT-550CFM
MRK-3726	FD-37	PFD-37	VFD-37	LVFD-37	--	--	--	MW-ST	MW-LVT	MW-4FT-380CFM	MW-6FT-660CFM	MW-10FT-550CFM
MRK-3731	FD-37	PFD-37	VFD-37	LVFD-37	--	--	--	MW-ST	MW-LVT	MW-4FT-380CFM	MW-6FT-660CFM	MW-10FT-550CFM
MRK-4026	FD-40	PFD-40	VFD-40	LVFD-40	--	MW-LVRD-40	--	MW-ST	MW-LVT	MW-4FT-380CFM	MW-6FT-660CFM	MW-10FT-550CFM
MRK-4031	FD-40	PFD-40	VFD-40	LVFD-40	--	MW-LVRD-40	--	MW-ST	MW-LVT	MW-4FT-380CFM	MW-6FT-660CFM	MW-10FT-550CFM
MRK-4036	FD-40	PFD-40	VFD-40	LVFD-40	--	MW-LVRD-40	--	MW-ST	MW-LVT	MW-4FT-380CFM	MW-6FT-660CFM	MW-10FT-550CFM
MRK-4042	FD-40	PFD-40	VFD-40	LVFD-40	--	MW-LVRD-40	--	MW-ST	MW-LVT	MW-4FT-380CFM	MW-6FT-660CFM	MW-10FT-550CFM
MRK-4426	FD-44	PFD-44	VFD-44	LVFD-44	PVFD-44	MWLVRD-44	MW-CLVRD-44	MW-ST	MW-LVT	MW-4FT-380CFM	MW-6FT-660CFM	MW-10FT-550CFM
MRK-4431	FD-44	PFD-44	VFD-44	LVFD-44	PVFD-44	MW-LVRD-44	MW-CLVRD-44	MW-ST	MW-LVT	MW-4FT-380CFM	MW-6FT-660CFM	MW-10FT-550CFM
MRK-4436	FD-44	PFD-44	VFD-44	LVFD-44	PVFD-44	MW-LVRD-44	MW-CLVRD-44	MW-ST	MW-LVT	MW-4FT-380CFM	MW-6FT-660CFM	MW-10FT-550CFM
MRK-4442	FD-44	PFD-44	VFD-44	LVFD-44	PVFD-44	MW-LVRD-44	MW-CLVRD-44	MW-ST	MW-LVT	MW-4FT-380CFM	MW-6FT-660CFM	MW-10FT-550CFM

Middle Atlantic Products

VMRK Series Extra Tall Multi-Bay Rack Enclosures

VMRK = Very Tall Multi-Bay Rack

Like the VRK, the VMRK series has a rugged, space-saving design with a 22" broadcast standard width. This version adds extra height to take full advantage of taller spaces - delivering a full 54 rackspaces in the same floor space as a standard rack!

Specifiy a VMRK to maximize your racking cabpacity, and where seismic certification and open or removable sides are required or preferred.

Structural Features
- Fully welded construction for strength
- 54 spaces of racking height
- Standard front and rear adjustable, heavy-gauge, 10-32 threaded "Z-Rail" with numbered rackspace increments speeds equipment mounting
- Racks gang together when fully loaded
- Finished in a durable black textured powder coat

Thermal Management
- Comes with standard solid locking rear door, optional vented rear doors available
- Solid (steel or plexi) and vented front door options are available
- Solid, vented and fan top options are available

Cable Management
- Multiple lacing points and slotted rail brackets for cable management flexibility

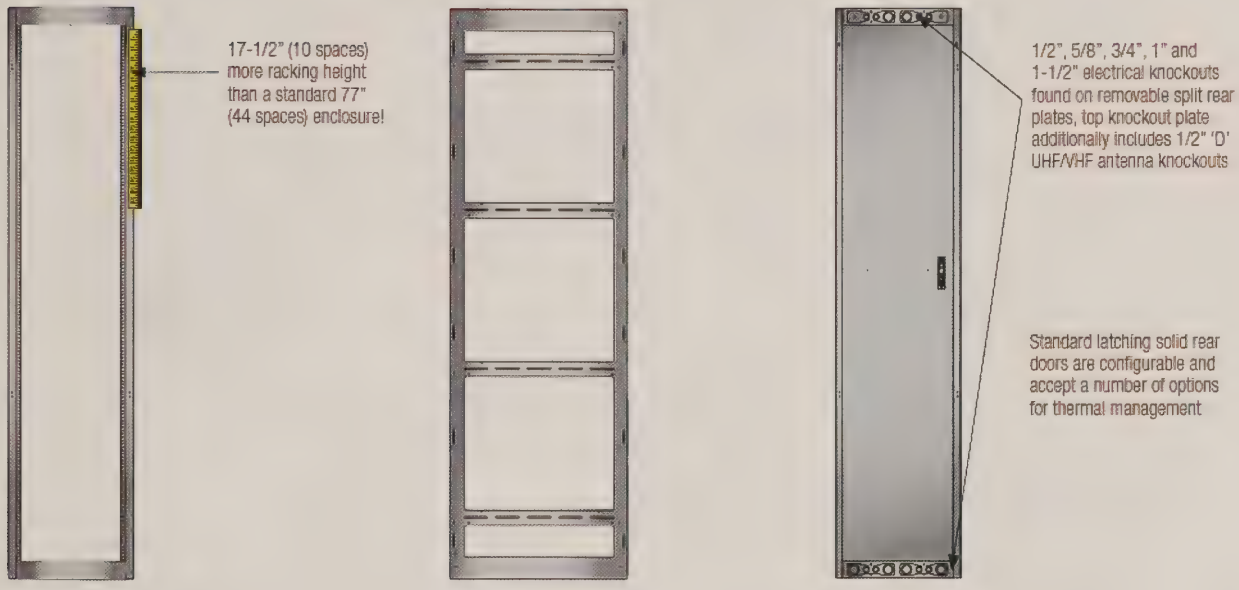
Regulatory / Certifications
- Static load capacity - 10,000 lbs.
- UL Listed in the US and Canada. UL Listed load capacity - 2,500 lbs.
- Seismic certified to the following codes and standards: 2007 & 2010 CBC; 2006, 2009 & 2012 IBC; ASCE 7-05 (2005 Edition) & ASCE 7-10 (2010 Edition) and the 2006 & 2009 editions of NFPA 5000 for use in areas of high seismicity – Zone 4 or Seismic Design Category (SDC) "D". These are designed for Mission Critical and/ or High-Importance Installations in locations with the highest level of seismicity and top floor or rooftop installations including those within UBC and CBC Essential facilities or IBC, ASCE 7, and NFPA 5000 Seismic Use Group III facilities. For all codes, the Importance factor (Ip) is 1.5. Seismic Certified load capacity of 640 lbs. when used with MRK-Z4 seismic floor anchor brackets.
- GREENGUARD Indoor Air Quality Certified for Children and Schools (the most strict level)

Part #	Racking Height	Overall Height	Useable Depth	Overall Depth	Overall Width	Lockable Side Panels	Additional 10/32 Threaded Rackrails
VMRK-54	94-1/2" (54 space)	100-5/8"	29"	31-1/2"	22"	SPN-54-312	VRR-54
VMRK-54-36	94-1/2" (54 space)	100-5/8"	33-1/2"	36"	22"	SPN-54-36	VRR-54

All models available without rear door, use suffix part # 'LRD'

VMRK Series Extra Tall Multi-Bay Rack Enclosures

Middle Atlantic Products



	Front Doors			Rear Doors			Fan Tops		
Part #	Solid	Plexi	25% Open Area Perf	64% Open Area Perf	Solid Top	64% Open Area Perf Top	w/ (4) 4-1/2 Fans (380 CFM Total)	w/ (3) 6" Fans (660 CFM Total)	w/ (1) 10" Fan (550 CFM Total)
VMRK-54	FD-54	PFD-54	VFD-54	MW-LVRD-54	MW-ST	MW-LVT	MW-4FT-380CFM	MW-6FT-660CFM	MW-10FT-550CFM
VMRK-54-36	FD-54	PFD-54	VFD-54	MW-LVRD-54	MW-ST	MW-LVT	MW-4FT-380CFM	MW-6FT-660CFM	MW-10FT-550CFM

Middle Atlantic Products

PTRK Series Portable Rack

Specify a PTRK when a rugged, portable rack is essential.

Smooth rolling 4" casters, advanced cable management and secure doors make this rack ideal for serving a variety of applications.

Spec. # 96-154 for full product info.

EIA/TIA Compliant

Structural Features

- Standard front adjustable heavy-gauge, 10-32 threaded rackrail with smooth laser cut cable openings & numbered rackspace increments speed equipment mounting
- Fully welded steel construction for strength
- Heavy-duty commercial grade locking casters and spring-loaded recessed side handles facilitate rack transport
- Keylocked front and rear doors standard for advanced security
- Finished in a durable black textured powder coat
- Also available with graphite-marbled laminate top and plexi front door

Thermal Management

- Side panels are vented for passive thermal management
- Laser knockouts on rear door for fans (KO-AWFP2)

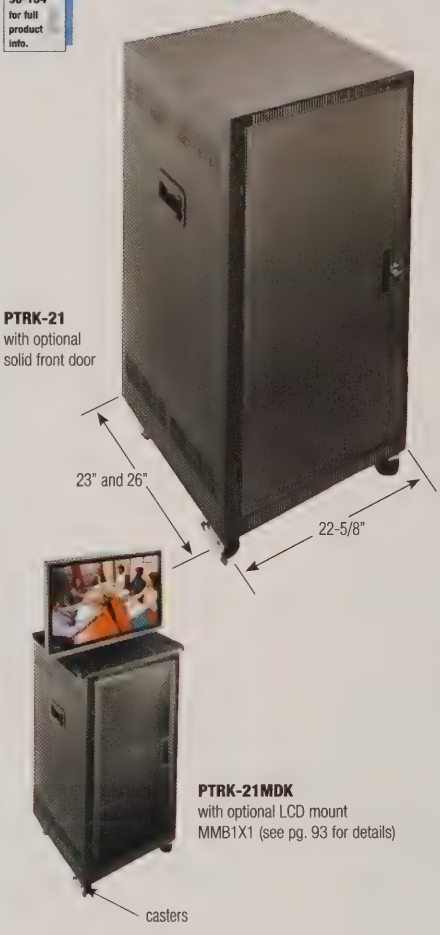
Cable Management

- Slots incorporated into bottom of rack for cable strain relief and mounting of boxes

Regulatory / Certifications

- 500 lb. weight capacity
- Enhanced stud in base of rack facilitates proper grounding and bonding of electronic equipment, as per NEBS and NEC standards
- GREENGUARD Indoor Air Quality Certified for Children and Schools (the most strict level)

Part #	Racking Height	Overall Height Including Casters	Usable Depth
PTRK-14	24-1/2" (14 space)	33-3/4"	21-1/2"
PTRK-14MDK**	24-1/2" (14 space)	34-3/4"	21-1/2"
PTRK-21	36-3/4" (21 space)	46"	21-1/2"
PTRK-21MDK**	36-3/4" (21 space)	47"	21-1/2"
PTRK-1426	24-1/2" (14 space)	33-3/4"	24-1/2"
PTRK-1426MDK**	24-1/2" (14 space)	34-3/4"	24-1/2"
PTRK-2126	36-3/4" (21 space)	46"	24-1/2"
PTRK-2126MDK**	36-3/4" (21 space)	47"	24-1/2"
PTRK-2726	47-1/4" (27 space)	56-1/2"	24-1/2"
PTRK-2726MDK**	47-1/4" (27 space)	57-1/2"	24-1/2"



PTRK-21
with optional solid front door

PTRK-21MDK
with optional LCD mount MMB1X1 (see pg. 93 for details)

WRK-24MDK Presentation Enclosure System

WRK-24MDK studio enclosure system combines furniture elegance with a robust rolling steel enclosure in a deep video rack.

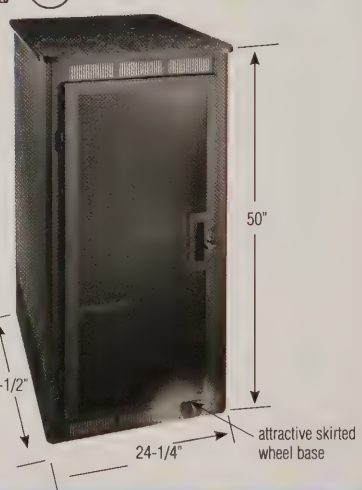
Spec. # 96-052SA for full product info.

EIA/TIA Compliant

Incorporating an attractive graphite-marbled laminate top that can accommodate video monitors, the WRK-24MDK comes with a skirted wheel-base, latching front plexi door, latching vented rear door, and front and rear rackrail.

- GREENGUARD Indoor Air Quality Certified for Children and Schools (the most strict level)

Part #	Description
WRK-24MDK	42" (24 space) x 32" deep presentation enclosure system
MMB1X1*	single LCD mount, articulating, black finish
*20 lb. weight capacity	



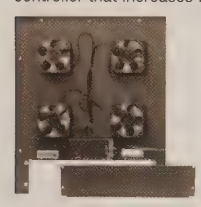
WRK-24MDK

Enclosure Options Accessories

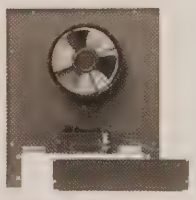
Middle Atlantic Products

Thermostatically Controlled Integrated Fan Top Options

Thermostatically Controlled Integrated Fan Tops ships fully assembled and include 4-1/2", 6" or 10" fans, fan guards and proportional speed fan controller that increases fan life, reduces noise, saves energy, and reduces dust build up. ETL Listed in the US and Canada.



MW-4QFT-FC



MW-10FT-FC

ERK-4QFT-FC

ERK-10FT-FC

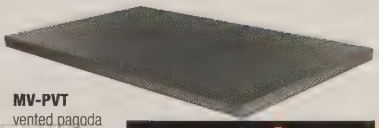
Part #	# of Fans	Fits	Free Air CFM
MW-4QFT-FC*	four quiet 4-1/2" fans	MRK, DRK, VRK, VMRK, WRK Series	220
MW-10FT-FC	one 10" fan	MRK, DRK, VRK, VMRK, WRK Series	550
ERK-4QFT-FC*	three quiet 4-1/2" fnms	ERK, WMRK, SCRK Series	165
ERK-10FT-FC	one 10" fan	ERK, WMRK, SCRK Series	550

Vented Pagoda Top Options

Vented pagoda tops maintain enclosure temperatures through natural convection while minimizing the amount of dust and debris that can fall into the rack, and adds 1-1/2" to the top of the rack.

Part #	Style
MV-PVTxx	vented pagoda top, MRK, VRK, VMRK only

xx = depth of MRK, VRK and VMRK only (26", 31", 36" or 42")

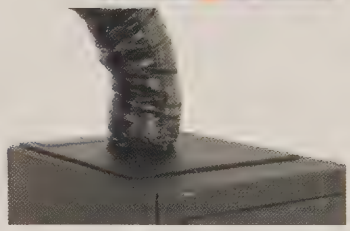


MV-PVT
vented pagoda top for MRK, VRK, VMRK only - keeps dust out

Duct-Cool™ Adapter Top Options

Adapter top option to allow the Duct-Cool to be mounted to the top of select racks. Includes top and adapter only. Duct-Cool is a complete remote cooling solution that allows you to manage the heat in closets, racks or enclosed projectors quietly and effectively. See pg. 125 for additional details on the Duct-Cool system.

Fits DRK, WRK, MRK, VRK, VMRK, Part #	Fits ERK, WMRK, SCRK Part #	Style
MW-DT	ERK-DT	duct cool adapter



Top Rail Kit

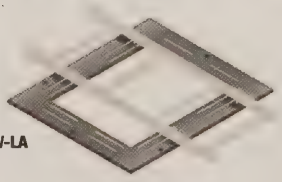
Convert the top of any WRK, MRK, VRK, VMRK, or DRK into useable rackspace with the MW-TR top rail kit. Can be used in conjunction with our connector panels to allow for customizable connections in the top of the rack. See pg. 162 for details on connector panels.

Part #	Description
MW-TR	13 space top rail kit

Ladder Adapter Top Option

Adapter used to connect cable ladder to the top of racks or cabinets. See pg. 142 for cable ladder offering.

Part #	Cable Ladder Sizes	Fits
MW-LA	6", 9", 12"	WRK, MRK, VRK, VMRK, DRK Series
MK-LA	12"	MK, RLA, RL Series



MW-LA

Door/Status Sensor

Mounts to any Middle Atlantic Products front and rear doors, and provides contact closure notification at door open/close events. Requires connection to system that senses contact closure.

Part #	Quantity	Part #	Quantity
DCS	1	DCS-10	10

DCS

PREMIER METAL

Relay Rack Heavy Duty Utility Racks

RR-2100 Series

- Made of No. 12 gauge (.104) steel on EIA spacings ($^5/_8$-$^5/_8$-$^1/_2$) both front and rear.
- Uprights 8 $^1/_8$" deep.
- Panels fit into $^1/_2$" recess. Either flat or formed panels may be used.
- Vertical members and top cross piece are welded together.
- The base and rear supports are shipped knocked down.
- Finished in any Premier standard color.

FOR 19" WIDE PANELS				
Cat No.	Width	Panel Space	Shpg. Wt. Lbs.	Height
RR-2173	21 $^1/_{16}$"	70 x 19"	90	73 $^1/_4$"
RR-2180	21 $^1/_{16}$"	77 x 19"	95	80 $^1/_4$"

TR Series

- Rigidly constructed of #16 gauge cold rolled sheet steel and finished in any Premier standard color.
- Base constructed of one piece, similar to a chassis.
- Panel mounting holes are tapped for 10/32 machine screws on E.I.A. spacings ($^5/_8$-$^5/_8$-$^1/_2$).
- Racks are shipped knocked down with all necessary bolts for easy assembly.

Cat No.	H.	W.	D.	Panel Space	Shpg. Wt. Lbs.
TR-2119	25"	21"	12"	21 x 19"	17
TR-2819	32"	21"	12"	28 x 19"	20

toner

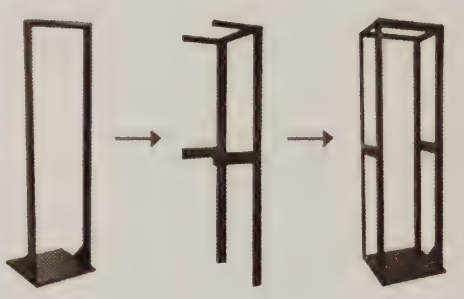
TRR Series Heavy Duty Relay Racks

- 68 $^1/_4$" Rack Space (39 RU)
  80 $^1/_4$" Rack Space (45 RU)
- Satin Black Finish
- 19" Panel Mount Spacing
- Shipping Weight: 41 pounds
- UPS Shippable
- Shipped Knocked Down in Two Cartons
- 20" x 20" Base with 12" Braces with Holes for Mounting CA-3 Casters
- Made of No. 12 Gauge Cold Rolled Steel
- Tapped 10-32 on EIA Spacing ($^5/_8$" - $^5/_8$" - $^1/_2$")
- Drilled Base with CA-3 Caster

TRR-72 72" **TRR-84** 84"

-OPTIONS-

- $^5/_8$" x $^5/_8$" Screws, Part Number SFSW10-32
- $1^3/_4$" Blank Panels Black, Part Number ARP-119-571
- CA-3 Caster Set, 4 Swivel Ball Bearing Casters with 3" Plastic Wheels, 225 Pound



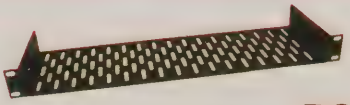
TRR-72-4PK 4 Post Kit for 72" Relay Rack2"
TRR-84-4PK 4 Post Kit for 84" Relay Rack

The Toner TRR-72-4PK is an accessory kit for the TRR-72 rack. It adds two additional vertical rear posts with top bracing to create a 4 post rack. This is commonly used for wire management, strength & stability.

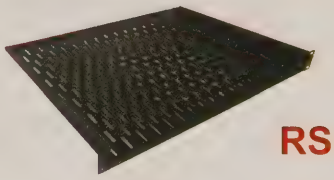
RS Series Black Ventilated Rack Shelves

- Standard 19" Wide Rack Shelves
- 1RU, 2RU, and 3RU Sizes
- All with Ventilation / Mounting Slots
- 16 Gauge Cold Rolled Steel (RS-1906S, RS-1915S, RS2915S)
- 14 Gauge Cold Rolled Steel (RS-3915S)
- Black Powder Coated Finish
- Standard EIA Mounting

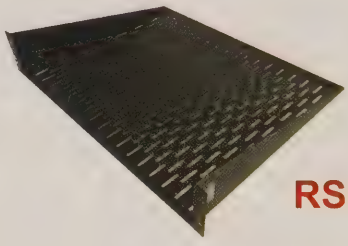
Model	Size
RS-1906S	1RU - 1.75 H x 17.625" W x 6"D
RS-1915S	1RU - 1.75 H x 17.625" W x 15"D
RS-2915S	2RU - 3.5 H x 17.625" W x 15"D
RS-3915S	3RU - 5.25 H x 17.625" W x 15"D
RS-SRB-1	Optional Receiver Bracket to Hold Multiple DSS Receivers on Edge



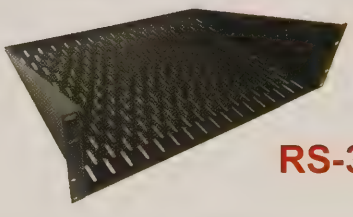
RS-1906S



RS-1915S



RS-2915S

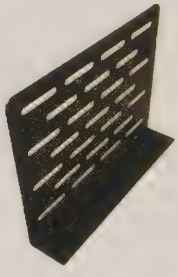


RS-3915S

RS-SRB-1

Optional Receiver Bracket to Hold DSS Receiver

**Patent Pending*



ARP Series Blank Panels

Standard 19" Width, ARP Series, 11 Gauge Aluminum, Black Powder Coat Finish

Model	Size
ARP-119-571	1-3/4" (1RU)
ARP-319-571	3-1/2" (2RU)
ARP-519-571	5-1/4" (3RU)
ARP-719-571	7" (4RU)

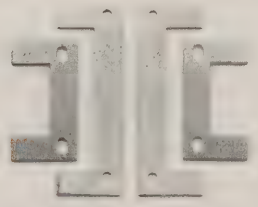
Toner

HW Series Black Rack Screws

- Black Truss Head Philips Rack Screws 10-32 x 3/4"
- Pre-Installed Black Nylon Washer to Protect Equipment
- Self Guiding Pilot Point for Ease of Installation

Model HW-100 Bag of 100 Screws
Model HW-500 Jar of 500 Screws

ESB Series Equipment Support Brackets

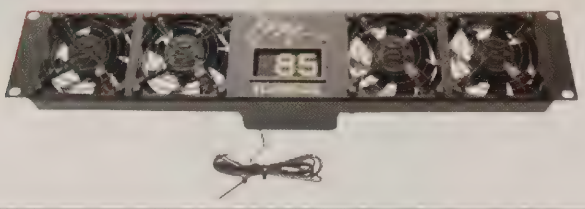


Used to support long or heavy equipment in racks and cabinets.

Model ESB-175 and ESB-350

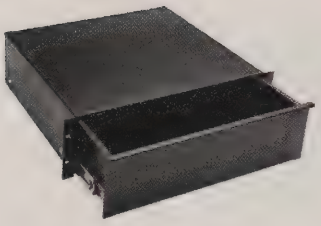
- Mounted on Rear Panel Mounting Angle
- Two Sizes Available 1 3/4" & 3 1/2" High Equipment

UQFP-4D Ultra Quiet Fan Panel, 4 Fans



- 100 CFM cooling capacity
- Digital processor varies fan speed based on equipmenttemperature for ultra quiet operation
- Front panel rack temperature and alert display provides instant system status
- Onboard digital processor monitors rack temperature via external sensor
- Local and remote notification of over temperature and fan fault to control system
- Available in 110V and 220V versions

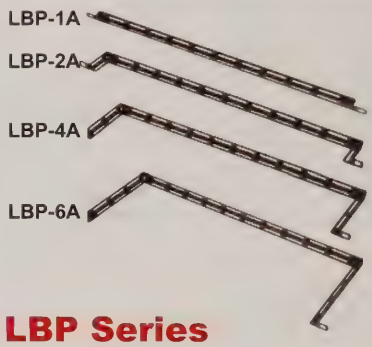
Middle Atlantic Products



UD Series
Utility Drawers

Fully enclosed design, rackmountable utility drawers available in 2, 3 and 4 space. Features include face mounted drawer pull, black powder coat finish, and 50 lb. weight capacity.

Model	Size
UD2	15-15/16" W x 14-1/2" D 3-1/2" (2 space)
UD3	15-15/16" W x 14-1/2" D 5-1/4" (3 space)
UD4	15-15/16" W x 14-1/2" D 7" (4 space)



LBP Series
Lacer Bars (Horizontal)

19" black powder coated L shaped steel bars for cable management.

Model	Size
LBP-1A	Straight
LBP-2A	2" Offset
LBP-4A	4" Offset
LBP-6A	6" Offset

TW12 Cable Management Strap

- Safely secures cables to tie saddles, lacing strips, and tie points
- Easy to open and reclose for service or to make wiring changes
- Genuine Velcro® construction
- Each pack includes 12 pieces

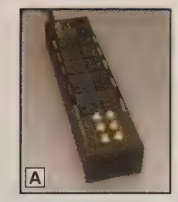
OB Series Multiple Outlet Power Strips

These outlet strips will assist you with the power distribution in your headend.

TRIPP·LITE POWER PROTECTION

Model #	# Outlets	Length	Power Cord	Switch	Circuit Breaker
OB112	6	12 1/4"	6'	YES	15A
OB160-18	18	60"	6'	NO	15A
OB160-20	20	60"	6'	YES	15A

TRIPP·LITE
POWER PROTECTION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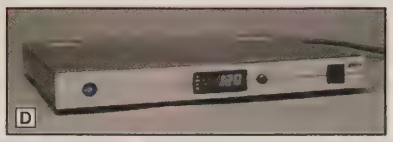
C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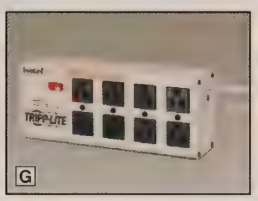
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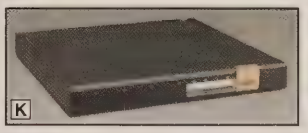
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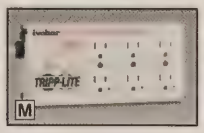
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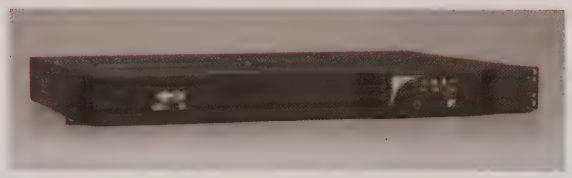
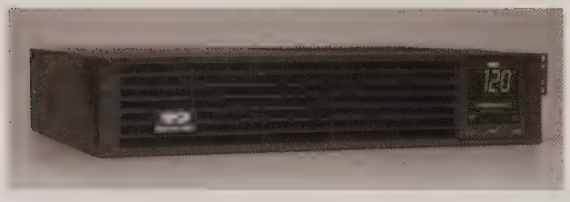
O

SPECIFICATIONS

Model	Outlets [1]	Joule (Surge Protection Rating)	Typical Transformer Capacity [2]	Isolated Filter Banks	Signal Line Protection: Tel/DSL/ Modem (RJ11)	Signal Line Protection: Coaxial (F) (HD, Gold)	Signal Line Protection: Ethernet (RJ45)	Diagnostic LEDs [3]	Power Cord Length (ft.) [4]	Ultimate Lifetime Insurance [5]	Housing Style
Audio/Video Surge Suppressors											
HT10DBS	10 (5-15R)	3570	5	2	1 line	3 line	1 line	3	8	$500,000	A
ISOBAR6DBS	6 (5-15R)	2850	3	3	1 line	2 line	—	3	6	$250,000	B
Audio/Video Power Centers											
HT1210ISOCTR	12 (5-15R)	5700	6	3	1 line	3 line	1 line	12	10	$150,000	C 2U Rack/Console
HT810ISOCTR	8 (5-15R)	5700	5	2	1 line	3 line	—	16	10	$100,000	D 1U Rack/Console
HT2210ISOCTR	2 (5-15R)	5100	1	1	—	—	—	3	10 ft./18 in.	$100,000	E For Flat-Panel TV
Rackmount Surge Suppressors											
ISOBAR12ULTRA	12 (5-15R)	3840	6	2	—	—	—	3	15	$25,000	F 1U Rack
IBAR12	12 (5-15R)	3840	6	2	—	—	—	3	15	$25,000	F 1U Rack
IBAR12/20ULTRA	2 (5-15R), 10 (5-20R)	3840	6	1	—	—	—	3	15	$25,000	F 1U Rack
IBAR12-20T	2 (5-15R), 10 (5-20R)	3840	6	1	—	—	—	3	15	$25,000	F 1U Rack
Surge Suppressors											
ISOTEL8ULTRA	8 (5-15R)	3840	4	4	1 line	—	—	3	12	$50,000	G
ISOBAR8ULTRA	8 (5-15R)	3840	4	4	—	—	—	3	12	$50,000	G
ISOBAR825ULTRA	8 (5-15R)	3840	4	4	—	—	—	3	25	$50,000	G
IB8RM	8 (5-15R)	3840	4	4	—	—	—	—	12	$50,000	G
ISOTEL6ULTRA	6 (5-15R)	3330	3	3	2 line	—	—	3	6	$50,000	H
ISOBAR6ULTRA	6 (5-15R)	3330	3	3	—	—	—	3	6	$50,000	H
ISOBAR6	6 (5-15R)	3330	3	3	—	—	—	—	6	$50,000	H
ISOTEL4ULTRA	4 (5-15R)	3330	2	2	1 line	—	—	3	6	$50,000	I
ISOTEL	4 (5-15R)	3330	2	2	1 line	—	—	—	6	$50,000	I
ISOBAR4ULTRA	4 (5-15R)	3330	2	2	—	—	—	3	6	$50,000	I
IBAR4	4 (5-15R)	3330	2	2	—	—	—	—	6	$50,000	I
ISOBAR2-6	2 (5-15R)	1410	1	1	—	—	—	—	6	$25,000	J
Under-Monitor Surge Suppressor											
MT6PLUS	6 (5-15R)	1440	3	1	1 line	—	—	8	10	$100,000	K
Direct Plug-In Surge Suppressors											
ULTRAFAX	2 (5-15R)	1410	1	1	1 line	—	—	3	Plug-In	$10,000	L
ULTRABLOK	2 (5-15R)	1410	1	1	—	—	—	3	Plug-In	$10,000	L
ISOBLOK2-0	2 (5-15R)	1410	1	1	—	—	—	3	Plug-In	$10,000	L
Surge Suppressor with Hospital-Grade Outlets & Plug											
ISOBAR6ULTRAHG	6 (5-15R-HG)	3330	3	1	—	—	—	3	15	—	M
230V Surge Suppressors											
ISOBAR4/220	4 (5-15R)	330	2	2	—	—	—	—	6	—	N
EURO-4	4 (C13)	680	2	2	—	—	—	—	6	—	O

All models are rated for 120V AC (50/60 Hz) operation except ISOBAR4/220 and EURO-4, which are rated for 230V AC (50/60 Hz) operation. * Certifications vary by model. [1] All models feature 5-15R outlets with the following exceptions: IBAR12/20ULTRA and IBAR12-20T feature 2 5-15R and 10 5-15/20R outlets; ISOBAR6ULTRAHG features hospital-grade 5-15R HG outlets; EURO-4 features C13 outlets. [2] Based on typical transformer size. Actual transformer capacity may vary. [3] 16 LED models = "Protected" (surge suppression is working), "Grounded" (wall outlet is properly wired), "Power" (power is available at wall outlet), "Switched" (power is available at power center outlets), 6 "Input Voltage" LEDs and 6 "Current Usage" LEDs. 12 LED models = "Protected," "Grounded," "Power," "Switched," 4 "Outlet Selected" LEDs and 4 "Outlet On/Off" LEDs. 8 LED models = 4 switch LEDs, "Low Voltage" (wall outlet is providing lower than nominal voltage), "Line OK" (wall outlet is properly wired), "Protected" and "Fault" (fault in wall outlet). 3 LED models = "Line OK," "Protected" and "Fault." 2 LED models = "Protected" and "Grounded." [4] All models feature a 5-15P plug with the following exceptions: IBAR12/20ULTRA features a 5-20P plug; IBAR12-20T features a twist-lock L5-20P plug; EURO-4 features a detachable C13-to-C14 cable and C14 inlet. [5] Ultimate Lifetime Insurance is valid in the U.S., Puerto Rico and Canada only.





TRIPP·LITE
POWER PROTECTION

Model	Output Capacity	Typical Runtime[C] (Half/Full Load)	Extended Runtime	Total Rack Size	Nominal Input/ Output Voltage (Frequency 60Hz)	AC Outlet Quantity (Type)	Switched Outlet Banks	USB Ports	Serial Ports	Input Plug
SmartPro UPS Systems										
SMART500RT1U	500VA/300W	14.6/3.2 min.	—	1U	120V	7 (5-15R)	1x1	1	1	5-15P
SMART750RM1U	750VA/600W	4.8/16.2 min.	—	1U	120V	6 (5-15R)	2x1	1	1	5-15P
LCD SMART750RMXL2U	750VA/600W[A]	20.7/8.5+ min.	A B	2U	120V	6 (5-15R)	2x1	1	1	5-15P
SMART1000RM1U	1000VA/800W	14/4 min.	—	1U	120V	6 (5-15R)	2x1	1	1	5-15P
LCD SMART1000RM2U	1000VA/800W	15/5.3 min.	—	2U	120V	6 (5-15R)	2x1	1	1	5-15P
LCD SMART1000RMXL2U	1000VA/900W	18/6.3+ min.	C D	2U	120V	8 (5-15R)	2x1	1	1	5-15P
LCD SMART1500RM2U	1500VA/1350W	13/4.5 min.	—	2U	120V	8 (5-15R)	2x1	1	1	5-15P
SNMP LCD SMART1500RM2UN	1500VA/1350W	13/4.5 min.	—	2U	120V	8 (5-15R)	2x1	1	1	5-15P
LCD SMART1500RMXL2UA	1500VA/1350W	14/4.9+ min.	C D	2U	120V	8 (5-15R)	2x2	1	1	5-15P
SNMP LCD SMART1500RMXLN	1500VA/1350W	14/4.9+ min.	C D	2U	120V	8 (5-15R)	2x2	1	1	5-15P
LCD SMART2200RM2U	2200VA/1920W	12/4.5 min.	—	2U	120V	4 (5-15R), 4 (5-15/20R)	2x1	1	1	5-20P
SNMP LCD SMART2200RM2UN	2200VA/1920W	12/4.5 min.	—	2U	120V	4 (5-15R), 4 (5-15/20R)	2x1	1	1	5-20P
LCD SMART2200RMXL2U	2200VA/1920W[A]	12/4.5+ min.	E F	2U	120V	4 (5-15R), 4 (5-15/20R)	2x1	1	1	5-20P
LCD SMART2200RMXL2UP	2200VA/1920W	12/4.5+ min.	E F	2U	120V	4 (5-15R), 4 (5-15/20R)	2x1	1	1	5-20P
SNMP LCD SMART2200RMXLN	2200VA/1920W[A]	12/4.5+ min.	E F	2U	120V	4 (5-15R), 4 (5-15/20R)	2x1	1	1	5-20P
SMART2600RM2U	2600VA/2100W[A,B]	11/4+ min.	E F	2U	120V	4 (5-15R), 4 (5-15/20R), 1 (L5-20R)	3x1	1	1	5-20P
LCD SMART3000RM2U	3000VA/2250W[A]	10/3.5+ min.	E F	2U	120V	8 (5-15/20R), 1 (L5-30R)	2x1	1	1	L5-30P
SNMP LCD SMART3000RM2UN	3000VA/2250W[A]	10/3.5+ min.	E F	2U	120V	8 (5-15/20R), 1 (L5-30R)	2x1	1	1	L5-30P
SMART3000RMOD2U	3000VA/2880W[A]	11/4+ min.	G H	2U	110/120/127V (50/60Hz)	6 (5-15R), 1 (L5-30R)	1x2, 1x4	1	1	L5-30P
LCD SMART3000RMXL2U	3000VA/2880W	10/3+ min.	E F	2U	120V	8 (5-15/20R), 1 (L5-30R)	2x1	1	1	L5-30P
SNMP LCD SMART3000RMXLN	3000VA/2880W	10/3+ min.	E F	2U	120V	8 (5-15/20R), 1 (L5-30R)	2x1	1	1	L5-30P
SMART5000RT3U	5000VA/4000W[B]	38/16+ min.	F	6U	208V in; 208V + 120V out	10 (5-15R), 2 (5-15/20R), 1 (L6-30R), 1 (L14-30R)	8x1	2	2	L6-30P
SMART5000XFMRXL	5000VA/3750W[B]	20/8.5+ min.	F	3U	208V in; 208V + 120V out	8 (5-15/20R), 2 (L6-20R), 1 (L6-30R)	8x1	1	2[D]	L6-30P
SMART5000TEL3U	5000VA/3750W[B]	20/8.5 min.	—	3U	208V in; 208V + 120V (600VA) out	2 (5-15R), 2 (L6-20R), 1 (L6-30R)	—	1	2[D]	L6-30P

Model with hot-swappable power module. Model with expandable runtime. LCD Model with LCD. SNMP Model with pre-installed SNMPWEBCARD.

External Battery Packs and Accessories

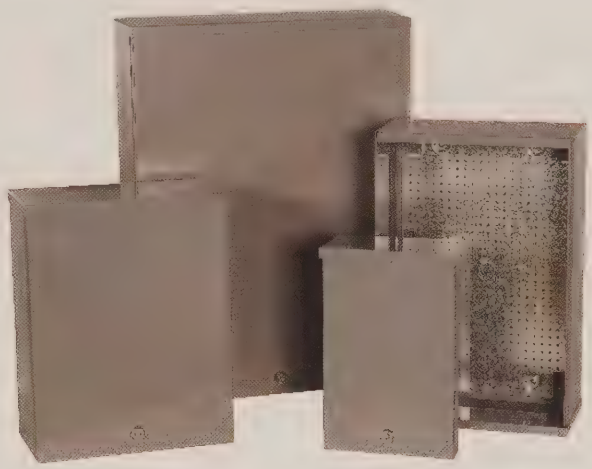
A	BP24V28-2U	24V external battery pack and cable, 2U. Not expandable. RED/BLACK 2-point connector.
B	BP24V70-3U	24V external battery pack and cable, 3U. Expandable. RED/BLACK 2-point connector.
C	BP36V15-2U	36V external battery pack and cable, 2U. Not expandable. GREY 2-point connector.
D	BP36V42-3U	36V external battery pack and cable, 3U. Expandable. GREY 2-point connector.
E	BP48V24-2U	48V external battery pack and cable, 2U. Not expandable. BLUE 2-point connector.
F	BP48V60RT-3U	48V external battery pack and cable, 3U. Expandable. BLUE 2-point connector.
G	BP72V15-2U	72V external battery pack and cable, 2U. Not expandable. BLACK 3-point connector.
H	BP72V28RT-3U	72V external battery pack and cable, 3U. Expandable. BLACK 3-point connector.
	SNMPWEBCARD	Adds Ethernet (RJ45) network interface to UPS for remote monitoring and control via SNMP, Web, SSH or telnet.
	ENVIROSENSE	Connects to SNMPWEBCARD for remote temperature and humidity monitoring. Also monitors contact-closure devices.
	RELAYIOCARD	Adds programmable contact-closure interface to compatible UPS systems. Includes six outputs and one input.
	2-9USTAND	Adapts UPS modules and battery packs for tower installation. One kit adjusts from 2U to 9U. Two kits adjust from 10U to 14U.
	2POSTRMKITHD	Heavy-duty 2-post rack mounting kit for 2U to 4U UPS modules and battery packs. Order one kit per module or battery pack.

Certifications vary by model. All models include an accessory card slot, 10 ft. input cord and mounting hardware for installation in standard 19 in. 4-post racks. 1U models also support 2-post rack installation. 2U and larger models require optional 2-post mounting hardware for 2-post rack installation. **(A)** Connecting an external battery pack reduces maximum output. See tripplite.com for more information. **(B)** Maximum output requires a user-supplied plug. See tripplite.com for more information. **(C)** Runtime varies with load, battery condition and other factors. "+" Runtimes are expandable using optional external battery packs. **(D)** Includes an RS-232 serial port and a contact-closure port.

SP Series Storm Proof Apartment House Cabinets

Features:

- 4 Standard Sizes, 2 Depths
- Drip Shield for Rain Protection
- 16 Gauge Galvaneal Steel
- Vending Machine Type Lock (TCE-1)
- Spot Welded for Strength
- Knockouts for Cable Entry
- 16 Gauge Galvanized Steel Backboard
- Uses Standard #8 Sheetmetal Screws to Mount Equipment
- 0.128" Diameter Equipment Mounting Holes on 1/2" Spacing (Meets SCTE Standard)



Model No.	Description H x W x D
SP-12-V	12 x 8 x 4 inches
SP-12-V8	12 x 8 x 8 inches
SP-15-V	15 x 12 x 6 inches
SP-15-V8	15 x 12 x 8 inches
SP-18-V	18 x 12 x 6 inches
SP-18-V8	18 x 12 x 8 inches
SP-24-V	24 x 18 x 6 inches
SP-24-V8	24 x 18 x 8 inches

PS-60/90-15 CATV Power Supply (Domestic)

TYPE	Non-Standby Power Supply
MODEL	PS-60/90-15 60 Hz (Domestic)

Maximum Output Power	(VA)	900
Nominal Input Voltage	(VAC) ±15%	120/230 (Switchable)
Input Frequency	(Hz)	60
Input Protection (Fuse)	(A)	8
Output Voltage	(V)± 5%	60/90 (Switchable)
Output Frequency	(Hz)	60
Maximum Output Current	(A)	15
Suggested minimum load	(A)	1

2) INDICATORS

Output voltage indicator	Green LED

3) VARIOUS

Lock	Standard Key
Water proof	NEMA IP21
Mounting system	Powder Coat Wall or Pole
Color	Powder Coat Champagne
Flange Fitting	5/8-24 CH Type
Protection	Short Circuit and Alarm
Circuit Breaker	Micro

4) DIMENSIONS & WEIGHT

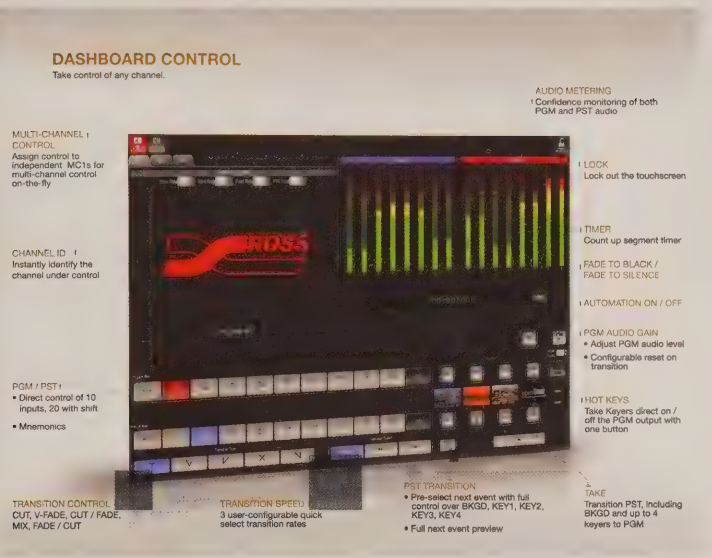
Height	13.1 inches	333 mm
Wide	8.4 inches	214 mm
Deep	7.2 inches	182 mm
Weight	43 lbs	19.5 Kg

Also available in International Format with 50 Hz Input / Output Frequency

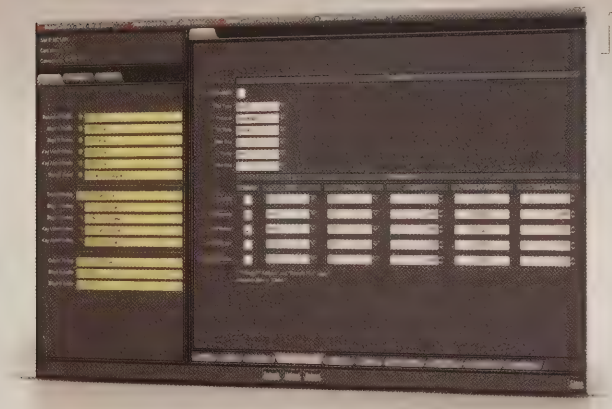
Model PS-60/90-15-I 50 Hz

ROSS
Video Production Technology

M1 Multi-Chanel Master Control & Branding



- Cost-effective modular design
- Multi-channel control
- Touchscreen control surface
- Ease-of-use manual control
- Hot key operation
- Full next event preview
- Direct control of 10 inputs, 20 with shift
- Programmable PGM / PST transition toggle
- 4 Branding Keyers with internal storage and playout
- External Key / Fill graphics input
- Embedded audio processing
- Fade to Black / Silence
- PGM audio level control
- Audio confidence monitoring
- Automation interface
- Integrated EAS text crawl with optional AudioOver
- 8 assignable GPI/O
- PGM protection relay
- 4 assignable outputs, PGM, PST, CLEAN



Setup, Logo and On-Air configuration at the click of a mouse.

Detailed Information On Products, Please Visit Our Website www.tonercable.com

Toner Cable Equipment, Inc. 800-523-5947
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Video Production Technology

openGear® 3.0

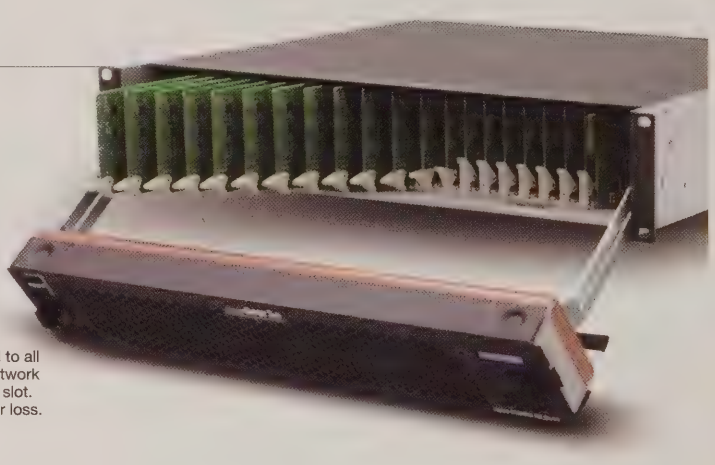
OG3 High Density Modular Frames

openGear® 3.0 is the evolution of the industry's first and only open hardware and software platform. The next generation openGear® frame, OG3-FR combines function, flexibility and power with advanced features like high powered 450 watt redundant power supplies, Gigabit Ethernet access to every card slot, 20 openGear® card slots, dedicated 21st and 22nd card slots for network control and internal reference distribution, and a front LCD display for easy frame, IP address and fault identification.

- Robust 450 watt power supply with integral cooling
- Standard Ethernet connectivity
- Optional advanced Ethernet based frame controller with GigE to every slot
- Optional SNMP control and monitoring
- 2RU frame houses up to 20 openGear® cards
- Supports any mix of analog, digital, video and audio modules in the same frame
- Modular I/O panels for connector flexibility
- Removable front door for easy fan servicing
- Frames come standard with cooling
- Front LCD display for name, IP and fault identification
- 2 independent looping references with connection to each card slot
- Optional redundant power supply, hot-swappable for 24/7 operation
- 5-year transferable warranty

2RU Frame

The OG3-FR is a 2RU modular frame, designed to accommodate up to 20 cards from the openGear® family.

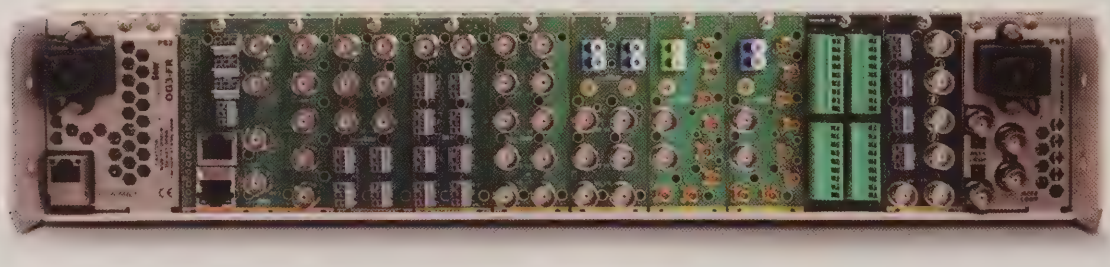


Common Frame Features

Two looping reference inputs are buffered and distributed to all module slots. A frame mounted Ethernet port allows a network control module to be added without occupying a module slot. PowerLock cord retainers guard against accidental power loss.

Modular Rear I/O Modules

Separate rear I/O modules are ordered with card modules offering a mix of BNC, fiber optic and other connections as required. These rear modules are quick and easy to install.



Ordering Information

OG3-FR-C	openGear® 3.0 Frame with Cooling
OG3-FR-CN	openGear® 3.0 Frame with Cooling and Advanced GigE Network Control
OG3-FR-CNS	openGear® 3.0 Frame with Cooling, Advanced GigE Network Control and SNMP
PS-OG3	Redundant or Spare 450 watt Power Supply
CFM-OG3	OG3 Spare 2RU Cooling Fan Kit
AFK-OG3	OG3 Air Filter Replacement Kit
FSB-OG3	OG3 Rear Support Bars and Brackets
MFC-OG3-N	OG3 Advanced Network Controller

Video Production Technology

DSS-824 Dual 2x1 or 4x2 HD/SD SDI Switch

- Dual 2x1 or 4x2 modes
- 2 switches on a single module
- Switches HD SDI and SD serial digital video (143Mb/s to 1.485Gb/s)
- 4 HD / SD SDI inputs, 2 reclocked outputs
- Configurable to 4x2, 4x1, 2x1, or dual 2x1 switch
- 20 2x1 / 10 4x2 switches in 2RU
- Input selection saved to non-volatile RAM
- Vertical interval switching compliant with SMPTE RP168-2002
- Indicators for input signal presence and reference
- Flexible control, remote RCM-8120 module, GPI, card-edge
- 5-year transferable warranty
- Power: 4.5 watts

LDP-8242 HD/SD SDI Loudness Processor

- Loudness processing with Linear Acoustic AEROMAX™ algorithms
- Actively and automatically corrects irritating loudness level changes
- Automatic video delay to match audio processing delay
- Loudness control for stereo or 5.1 audio
- Sophisticated multiband processing
- Audio channel mapping, phase inversion and level control
- 16 channels of sample rate conversion
- Passes all audio channels
- Optional discrete AES I/O for discrete audio processing and 16 channels of embedding / de-embedding
- Optional Linear Acoustic UPMAX™ 5.1 channel upmixing
- Handles all popular formats of SD (270Mb/s) and HD (1.485Gb/s) signals
- Ideal for bringing your station Compliance with the Calm Act
- 5-year transferable warranty

FSD-8240 HD/SD Sdi Frame Synchronizer with Dolby Decoding

- Handles all popular formats of SD (270Mb/s) and HD (1.485Gb/s) signals
- Glitch-free handling of embedded audio when a frame is dropped or duplicated
- Dolby® Digital and Dolby® E decoding with optional metadata output
- 16 channels of discrete audio embedding or de-embedding
- User offset to frame sync to align Dolby® delay
- AFD code insertion
- HD / SD closed captioning and flexible timecode support
- Frame sync with up to 13 frames of user-adjustable delay
- 4 internal tone generators
- 5-year transferable warranty

ADA-8402-A AES Distribution Amplifier

- 1x4 or 1x8 AES distribution amplifier
- Cable equalization and data reclocking on the incoming AES / EBU signal
- Supports audio sampling frequencies from 32kHz to 96kHz
- 75Ω unbalanced AES3 I/O
- Ideal for distributing Dolby® E and Dolby® Digital signals
- Provides level matching and level control of output signals
- 20 DAs in the OG3-FR
- 5-year transferable warranty
- Power: 2 Watts

ASI-310 DVB-ASI to SMPTE 310M Converter

Simultaneous two-way conversion:

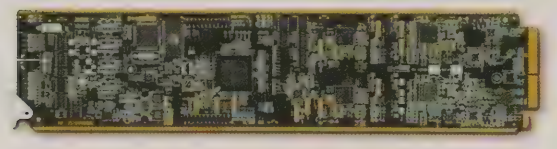
- Convert ASI to 310 for use by ATSC transmission equipment
- Convert 310 to ASI for use with ASI-based equipment such as analyzers

The ASI-310 facilitates:

- The interface from ASI infrastructure to ATSC transmission equipment
- The use of ASI test equipment to inspect 310 signals
- 5-year transferable warranty

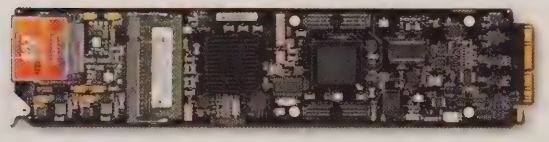
VDD-100 VANC Data Detector & Trigger

Detect the presence of up to 8 packets in the VANC and signal external devices with GPI/O.



- Detects up to 8 different VANC packets
- Triggers GPI/O outputs
- Matches on DID / SDID and 1 to 20 bytes of packet
- Select which bytes must match with a mask
- Match on packet length or on first 'n' bytes
- Remote control of network branding triggers
- Remote control of logo insertion equipment
- Remote control of aspect ratio control
- SCTE-104 decoding
- 5-year transferable warranty

QSP-8229 Quad Split



- Quad image processor
- 4 passive looping inputs available with the -R2L looping rear module
- 4 configurable outputs, pass-through / quad split
- Source ID labeling
- Quadrant bordering with adjustable width, color and transparency
- Any quadrant can be taken full screen
- <1 frame of processing delay
- Independent proc amp control on each output
- Auto-detection of HD / SD input
- Local GPI control
- 5-year transferable warranty
- Power: 18.4 watts

RCM-8120 Remote Control Modules

- 2 or 4 button control modules
- Discrete logic and GPI/O interfaces
- Multiple modules per control bus
- 2-way selector module
- 19" 1RU mounting rack panel
- Up to 5 modules in a 1RU rack panel
- Blank plates available for rack panel
- 5-year transferable warranty

Ordering Information

RCM-8120	4-Button Remote Control Module
RCM-8120-1	2-Button Remote Control Module
RCS-8120	Dual Remote Control Selector
MRP-8120	1RU Mounting Rack Panel
BPM-8120	Blank Panel for MRP-8120
DCA-8120	In-Desk Mounting Adapter

Video Production Technology

SRA-8601 V3G/HD/SD SDI Reclocking Distribution Amplifier

- 1x4 or 1x8 3Gb/s distribution amplifier
- Equalizes and reclocks SDI signals of 270Mb/s, 1.485Gb/s, and 2.97Gb/s
- Equalizes greater than 300m of Belden 1694A cable at 270Mb/s, greater than 120m of cable at 1.485Gb/s, or greater than 80m of cable at 2.97Gb/s
- Automatic detection of incoming data rate
- LED indicators for signal presence and data rate
- Excellent input and output return loss
- 20 DAs in the OG3-FR
- 5-year transferable warranty
- Power: 2.9 watts

Ordering Information

Quad Split

QSP-8229	Quad Split

Rear Module Suffix (ex: [model]-R2)

-R2	Rear Module for QSP-8229
-R2L	Looping Rear Module for QSP-8229

NWE-3GA Nielsen Watermarks Encoder

Key Features

- 3GHz video path with bypass relay protection
- Handles all popular SD and HD video formats, up to 1080p/59.97
- 4 AES-3id paths with bypass relay protection
- Transparent to VANC and HVANC data
- Both video and audio are delayed by one video frame time (two frames for 59.97Hz progressive formats)
- Up to 5 NWE-3GA modules can be installed in a single 2RU frame; alternatively, 1 NWE-3GA can be installed with up to 16 other cards
- RS232 port for external / automation control and monitoring
- DashBoard control with selectable alarming on video, audio and time inputs
- 5-year transferable warranty

Ordering Information

Nielsen Watermarks Encoder

NWE-3GA	Nielsen Watermarks Encoder

Rear Module Suffix (ex: [model]-R2)

-R2	Rear Module for NWE-3GA

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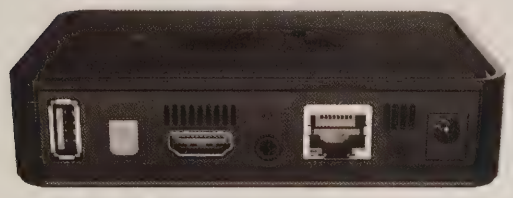


MAG254 IPTV / OTT Settop Box

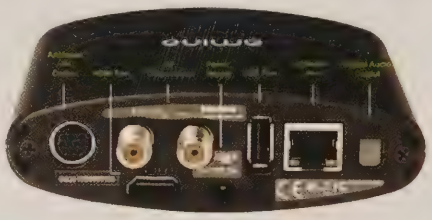
The MAG 254/255 is the best choice for any IPTV / OTT content application. It is a powerful settop box with an efficient processor, STiH207 650 MHz, and 512 Mb of RAM memory. The settop Box is designed to fulfill business projects of internet providers, OTT operators and content aggregators. The increased productivity of MAG 254/255 enables systems to use resource-intensive interactive applications and support 3D-video. By use of USB, customers have the ability to record and playback content or use the timeshift feature. MAG254 is for clear content, the MAG255 is for systems with Verimatrix CAS.

- MPEG2/4 SD and HD
- WiFi • UPnP • S/PDIF
- HDMI 1.4A Interface
- Media Playback
- Dual USB Interfaces
- Remote I/R Jack
- Composite Video / Audio Output
- Timeshift (using USB stick)
- Record and Playback (USB)
- Secure Media Content Protection
- VOD
- Verimatrix CAS* (by order MAG255)
- 45 Button Remote Control• Ideal for bringing your station Compliance with the Calm Act
- 12 month warranty

amino

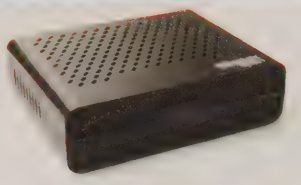
The A140 IPTV set-top box is now deployed globally and has earned a reputation for high performance, security and ultra-reliability. Stylish and compact, this field-proven HD STB is delivering great entertainment experiences combining live, on-demand and OTT services in a wide range of network environments. At its core is the AmiNET video player. Drawing on over a decade of innovation and expertise in IPTV, this key element maximizes CPU efficiency to deliver quality user experiences while also having the flexibility for new feature enhancements to keep you in step with the evolving technology marketplace.

Amino prides itself on its extensive global ecosystem – and the wide range of deployments undertaken with our technology partners. The A140 is integrated with a wide range of middleware – including market-leading solutions from Minerva, Innovative Systems, Espial, and Nordija.



A140 IPTV Settop Box

- "Carrier class" Wi-Fi capability - add a simple USB dongle for high quality HD content delivery around the home
- Amino Home Reach – easily add home monitoring and Control functionality to the A140 with a simple USB dongle to deliver a range of compelling "peace of mind" services.
- These include in-home Wi-fi cameras, movement and door sensors – all accessed by a smartphone or tablet app. For more information on Home Reach
- Now available with Timeshift pause live TV tiny form factor USB dongle
- HTTP Live Streaming (HLS) with trick play and record – delivering a great uninterrupted PVR-like user experience even in high latency networks
- HTML5 compliant browser – designed to maximise the user experience with web-delivered content
- Plus, as with all Amino products the operator gets great reliability – with industry-leading low RMAs – cutting deployment and expensive "truck roll" costs.Secure Media Content Protection
- VOD
- Verimatrix CAS* (by order MAG255)
- 45 Button Remote Control
- Ideal for bringing your station Compliance with the Calm Act
- 5-year transferable warranty



Toner DCST-4ATX Digital Settop Converter

Accepts 64/256 Clear QAM

- Full MPEG2 / MPEG4, H-264 / AVC, ATSC Compliant
- Standard Definition / High Definition
- 54 - 862 MHz Bandwidth
- Xcrypt Conditional Access Ported
- Uses Standard Smart Card CAS
- Channel 3 / 4 Output
- HDMI 1.2 with HDCP 1.1
- Composite Video, L / R Audio Output
- I / R Remote Extender
- Basic Menu and Channel Guide
- 35 Button Remote Control
- Fully licensed MPEG LA, MPEG Audio, Dolby AC
- Down Mix, HDMI / HDCP
- Fully PSIP Compliant
- EPG Up To 7 Days
- Dimensions 5.5"W x 4.25"D x 1.625"H (140mm x 109mm x 42mm)

Contemporary Research

232-ATSC-4 HDTV Tuner

The new 232-ATSC 4 HDTV Tuner, our 4th-generation HDTV tuner, adds new capabilities to the industry-standard 232-ATSC series. New features include tuning MPEG-4 programs, up to 1080p output, and more efficient operation. The new tuner is fully compatible the previous 232-ATSC+1 tuner for control, operation, and rack mounting.

The integrator-friendly HDTV tuner is controllable with 2-way RS-232 and IP Telnet, as well as wireless and wired IR commands. An onboard Web page enables remote Web control. A new menu-driven display simplifies setup, and a front-panel USB port makes firmware updates a snap. The new compact enclosure allows mounting of two tuners in a single rack space.

A universal TV tuner, the 232-ATSC 4 can receive both analog and digital MPEG-2/MPEG-4 channels, in ATSC, NTSC, and clear QAM formats. Using an optional RF switcher, the tuner can switch between antenna and cable feeds.Full MPEG2 / MPEG4, H-264 / AVC, ATSC Compliant

232-AMP+ Mixer Amplifier

The Contemporary Research 232-Amp+ is a compact, programmable mixer/amplifier aimed at integration with flat-panel displays and video projectors. The versatile amp features a stereo line-level display/projector audio input and two mono aux inputs, and outputs 32/40W RMS stereo sound. The aux inputs mix levels with the stereo input, and can be set to mute or lower other inputs when active, ideal for wireless mics and paging applications. The Class D amp is 90% efficient, operates with very little heat, and draws almost no power when quiet. The unit is also available as the 232-Amp+W, with integrated flanges for surface mounting (shown above, right).

When combined with a CR tuner and pole mount, the 232-Amp+ serves as an integrated AV tuning/audio solution for video projector installations. The optional SMA bracket mounts the 232-Amp+ to the top of CR tuners, and a single RS-232 port can control a 232-series tuner and amp.

ICC-ATSC+ HDTV Tuner Controller

The ICC2-ATSC+ HDTV Tuner is an integrated HDTV tuner/controller that networks HD display monitors and projectors in an iC-Net and SignStream display control system. As a universal TV tuner, the ICC2-ATSC can receive ATSC, NTSC, and clear QAM cable channels from an MATV antenna or CATV cable RF system.

The tuner displays broadcasts through simultaneous HDMI and NTSC composite video, and switchable HD RGBHV or Component outputs. Full-time audio is available from digital 5.1 HDMI, digital optical and coax ports, as well as variable-level analog stereo audio outputs.

ATSC+SDI HDTV Tuner +SDI

The ATSC+SDI is the first HDTV Tuner that features an onboard HD-SDI port. A professional HDTV tuner, the ATSC+SDI is controllable via RS-232, IP, and IR commands. An onboard Web page enables remote Web control. A new menu-driven display simplifies setup, and a front-panel USB port makes firmware updates a snap. The new compact enclosure allows mounting of two tuners in a single rack space.

The integral HD-SDI output allows inclusion of 708/608 captioning, choice of AES stereo or AC-3 audio, and scaled output set to a constant 1080i, 720p, or 480i resolution.

A universal TV tuner, the ATSC+SDI can receive both analog and digital channels, in ATSC, NTSC, and clear QAM formats. Using an optional RF switcher, the tuner can switch between Antenna and Cable feeds.

THOR DIGITAL

HDV668 2 HDMI to YPBPR/VGA Converter

HDV668 Specifications

- Input Ports 2xHDMI
- Output Ports 1xYPbPr, 1xVGA, 1xSPDIF, 1x3.5mm Phone Jack
- Power Supply DV 5V/1A
- Dimensions (mm) 130(D)x80(W)x33(H)mm
- Chassis Material Aluminum
- Operating Temperature 0°~40°C
- Video input/output resolutions 480i,576i,480p,576p,720p50/60Hz, 1080i50/60Hz,1080p50/60Hz
- Audio Output 2CH L/R Stereo and 5.1CH SPDIF optical audio

This 2 input HDMI to YPbPr/VBA switch converter is designed for TV or projector with component video or PC with VGA video inputs. This unit has two independent HDMI inputs to avoid the frequent swaps of video sources. It adopts the newest highly integrated video processing ICs to convert high-definition HDMI A/V signal to high-resolution VGA signal or high-definition YPbPr component video signal and provides the 2CH/5.1CH stereo and sound capabilities for your display devices (TVs, projectors, monitors) and A/V receiver. Pure signal processing through hardware, a great compact gadget of high quality; no need to install drivers, portable, flexible, plug and play. Built-in hardware scaling engine with anti-aliasing

HDVS001 3G SDI to HDMI Converter with Auto Video Mode Detection

The HDMI to 3G SDI converter allows HDMI signal to be shown on SDI display while ensure high bit rates of 2.970 Gbit/s to give you high resolution signal without any loss. For professionals this means that it is easier to convert your high def HDMI signal with audio to 3G SDI for long distance transmission and display your work on two 3G SDI displays now.

HDVS001 Specifications

- SMPTE Standard 425M Level A & B, 424M, 292M, 259M-C
- SDI Transmission Rates 2.970 Gbit/s and 2.970/1.001 Gbit/s
- In/Output Support Resolution 480i, 576i, 720p@50/59.94,60 1080i@50/59.94/60 1080p@23.98/24/25/29.97/30/50/59.94/60 1080PsF@23.98/24/25/29.97/30
- Input Port 1 x BNC (SDI/HD-SDI/3G-SDI)
- Output Port 1 x BNC (SDI/HD-SDI/3G-SDI) 1 x HDMI
- Power Supply 5V DC/ 2A
- SDI Cable Distance 3G up to 100M (BELDEN 1694A) HD up to 200M (BELDEN 1694A) SD up to 300M (BELDEN 1694A)

HDVS002 HDMI to 3G SDI Converter

HDVS002 Specifications

- SDI Transmission Rates 2.970 Gbps and 2.970/1.001 Gbps 1.485 Gbps, 1.485/1.001Gbps and 270 Mbps
- Frequency Bandwidth 225MHz/link (HDMI 1.3)
- In/Output Support Resolution 480i, 576i, 720p@50/59.94,60 1080i@50/59.94/60 1080p@23.98/24/25/29.97/30/50/59.94/60
- Input Port 1 x HDMI
- Output Port 2 x BNC (SDI/HD-SDI/3G-SDI)
- Power Supply 5V DC/ 2A
- SDI Cable Distance 3G up to 100M (BELDEN 1694A) HD up to 200M (BELDEN 1694A) SD up to 300M (BELDEN 1694A)

The HDMI to 3G SDI converter allows HDMI signal to be shown on SDI display while ensure high bit rates of 2.970 Gbit/s to give you high resolution signal without any loss. For professionals this means that it is easier to convert your high def HDMI signal with audio to 3G SDI for long distance transmission and display your work on two 3G SDI displays now.

SDI-MV

SDI Multi-Viewer

The SDI-MV is a powerful multiviewer that allows users to display 4 SDI signals on a single monitor. Users have the ability to configure where each program is on the screen as well as have options with different sizes.

- Built-in hardware scaling engine with anti-aliasing
- Video Enhancement
- 3D de-interlace
- 3D noise reduction
- OSD (On-Screen-Display) for
  -View mode: Full, PIP, PBP, Quad-View
  -Picture settings: Brightness, Contrast,
- Saturation, Hue
  -Input/output information and setup
  -Misc. settings
- Control panel and LED status indicators
- Firmware upgradable through USB port

THOR DIGITAL

RCA2X-6B | RCA2X-12B
RCA Audio/Video Cables

High perfomance dual RCA jumper cable with left and right audio.

- Available in 6 & 12 feet
- Dual 26AWG Coax Cable to Transport Digital HD Signals
- Pure Copper 85% Braid
- Pure Copper Center Conductor
- Color Coded Molded Fittings

RCA3X-6B | RCA3X-12B
Three Wire Component Cable

High perfomance triple RCA jumper cable for HD digital video signals (Y,Pb,Pr | RGB).

- Available in 6 & 12 feet
- EMI-RFI ProtectedDual Aluminum Shielding
- 120% 0.12mm Aluminum Polyester Foil Shield
- Pure Braid Shielded Connectors
- Solid Copper 22 AWG Center Conductor
- Gold Plated RCA Connectors
- Color Coded (Red, Green, Blue) Molded Ends
- Flat Ribbon Cable Design

HDVR45 HDMI Repeater

HDVR45 Specifications

• Input	HDMI
• Output	HDMI
• Dimensions (mm)	50x28x15mm
• Chassis Material	Plastic
• Operating Temperature	0°~40°C

HDMI repeater can regenerate the incoming HDMI signal by decoding and re-encoding to a new stand HDMI signal so it can extend the transmission rang without degradation.

Extends 1080p/UXGA up to 40 meter transmission distance (lower resolution signal can be transmitte longer).

No power, plug and play, easy to install.

HDMI Series Black HDMI Cables

HDMI (High Definition Multimedia Interface) cables are used to easily connect your DVR, HDTV, DVD, Blu-Ray Player, Digital Settop, Satellite Receiver and Tuner Amplifier for a complete Home Theater System.

HDMI cables are the digital replacement for analog A/V cables. The cables are fully HDMI compliant to the latest standard including 340 MHz (10.2 Gbps), HDMI Ehternet, 3D Video and 4K resolutions beyond 1080p. These cables feature 30 AWG wiring.

Ordering Information

Model	Description	
HDMI-1B	3.2 ft (1 meter) Black HDMI to HDMI Cable	3.2 ft (1 meter)
HDMI-2B	6.4 ft (2 meter) Black HDMI to HDMI Cable	6.4 ft (2 meter)
HDMI-3B	10 ft (3 meter) Black HDMI to HDMI Cable	10 ft (3 meter)
HDMI-4B	15 ft (4 meter) Black HDMI to HDMI Cable	15 ft (4 meter)

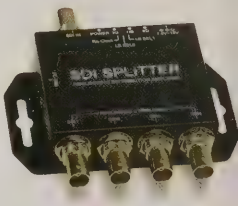
SDI-R
3G/HD-SDI Repeater

SDI-R Specifications

- Input : SDI BNC Connector
- Output: SDI BNC Connector
- SDI Format:
  3G-SDI (SMPTE 424M/425M)
  HD-SDI (SMPTE 292M)
  SD-SDI (SMPTE 259M)
- Supported Audio Format:
  Up to 8 channels, 24 bit, 48 KHz
- Plug & Play: Yes
- Power: 90-240 VAC (6V~15V, 0.3A)
  (power supply included)

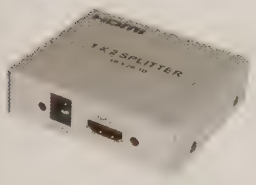
SDI1x4 Specifications

- Input : SDI BNC Connector x1
- Output: SDI BNC Connector x4
- SDI Format:
  3G-SDI (SMPTE 424M/425M)
  HD-SDI (SMPTE 292M)
  SD-SDI (SMPTE 259M)
- Supported Audio Format:
  Up to 8 channels, 24 bit, 48 KHz
- Plug & Play: Yes
- Power: 90-240 VAC (6V~15V, 0.3A)
  (power supply included)



SDI1x4
3G/HD-SDI Splitt

THOR DIGITAL



HDV912 HDMI 1x2 Splitter
(HDCP Compliant)

This range of high performance HDMI splitters provide one HDMI in to two HDMI outputs and supports 4K x 2K, 3D, 12-bit Deep Color, as well as High Definition Lossless Audio. With its 3Gbps bandwidth and the additional features of the latest HDMI standards you can be sure of great HDMI distribution.

HDV912 Specifications

• Video bandwidth	2.97 Gbps
• Input ports	1xHDMI (Female connector)
• Ouput ports	2xHDMI (Female connector)
• Output resolution	480i-1080p@50/60, 1080p24/30,VGA-UXGA,4Kx2K@30
• Dimensions	64mm x 60mm x 25mm
• Weight	260g

HDV914 HDMI 1x4 Splitter
(HDCP Compliant)

This range of high performance HDMI splitters provide one HDMI in to four HDMI outputs and supports 4K x 2K, 3D, 12-bit Deep Color, as well as High Definition Lossless Audio. With its 3Gbps bandwidth and the additional features of the latest HDMI standards you can be sure of great HDMI distribution.

HDV914 Specifications

• Video bandwidth	2.97 Gbps
• Input ports	1xHDMI (Female connector)
• Ouput ports	4xHDMI (Female connector)
• Output resolution	480i-1080p@50/60, 1080p24/30,VGA-UXGA,4Kx2K@30
• Dimensions	164mm x 85mm x 25mm
• Weight	350g

HDS94B HDMI 4x1 Switcher
(Supports HDMI 1.4)

This is a high performance 4x HDMI and 1x HDMI output switcher with digital/analog audio outputs. It supports HDCP repeater functions and fast switching between any of the four HDMI input ports. The system supports all 3D TV formats in addition to all HDTV formats up to 4Kx2K. Furthermore, the remote control gives user complete control over the selection of sources and makes the device incredibly user friendly.

HDS94B Specifications

• Frequency Bandwith	2.97 Gbps
• Input Ports	4 x HDMI female ports
• Output Ports	1 x HDMI female port, 1x Toslink, 1x earphone
• HDMI Audio Output	PCM2,5,1,7.1CH, Dolby 5.1,DTS5.1, D-TrueHD,DTS-HD
• Dimensions (mm)	164(W)x85(D)x25(H)
• Weight (g)	350

HDV944 HDMI 4x4 Matrix
(Supports HDMI 1.4)

The 4 by 4 HDMI matrix with 4Kx2K supported which allows HDMI signal from any of its four sources to be routed to and displayed on any of its four connected HDMI displays simultaneously. It supports 3D, 3Gbps bandwidth, 12-bit Deep Color, Hi-Def lossless audio and other features defined by HDMI specifications. The management of source/sink scenarios can be operated easily through on-panel buttons, IR remote control, RS-232 or Ethernet controls.

HDV944 Specifications

• Video bandwidth	300Mbps/10.2Gbps
• Input ports	4 x female HDMI type A, 1 x IR in, 1 x RS-232, 1 x RJ-45
• Output port	4 x female HDMI type A
• Output resolution	480i~1080p, 4Kx2K
• Power Supply	12V/2A DC

HDMIF-FLEX HDMI to HDMI Flex Coupler

Used to connect two HDMI cables together, flexes 90 degrees left or right for easy routing of cable.

- Gold Plated Contacts
- Supports HDCP
- Supports All HDTV Resolutions

THOR DIGITAL

HDMIF-HDMIF HDMI Coupler

Used to connect two HDMI cables together to extend their length (doesn't repeat the signal). Total cable length should not exceed 30 feet.

- Gold Plated Contacts
- Supports HDCP
- Supports All HDTV Resolutions

HDVE100 HDMI Over One 100m CAT5E/6 Extender (TCP/IP)

The HDMI over cat5/cat6 extender is a tool for extending your HDMI signal over long distances to a compatible display. It is designed to convert HDMI signal to standard TCP/IP and transmit by internet cable or LAN. It also supports IR re-transmitting, so you can control the source which is 100 meters outside using the HDMI extender.

HDVE100 Specifications

- Frequency Bandwidth 2.25 Gbps (single link)
- HDMI Transmitter Input/Output Ports 1x HDMI female port / 1x CAT6
- HDMI Receiver Input/Output Ports 1x HDMI female port /1x CAT6
- Power Supply DC 5V~12V
- Dimensions (mm) 65(w) x 100(D) x 25(H)

HDV201 VGA to Composite Video Converter

- Automatically detects and converts the incoming
- Support high resolution PC input up to SXGA (1,280 x 1,024 pixels at 60Hz)
- Output video format is selectable between composite/ S-video through a control button on the remote
- Support high-input refresh rate up to 108Hz (VGA)
- Adjustable image scaling
- Pan, position and zoom
- Advance 2D flicker filter ensures flicker free picture
- Adjustable contrast, brightness, color, sharpness
- Last memory

MOTOROLA

SURFboard SB5100 Cable Modem

- DOCSIS 1.1 and 2.0 Certified
- Integrated A-TDMAand S-CDMAtechnology - capable of providing up to 30 Mbps upstream data rate
- WHQL certified USB drivers for Windows® 2000/Me/XP
- New Stylish industrial design saves valuable desk space
- Front panel status LEDs and built-in HTML-based diagnostics for quick and easy troubleshooting
- USB and Ethernet connectivity simplifies installation
- Compatible with Windows® 95/98/2000/Me/NT/XP, Mac, Linux, and UNIX
- Supports up to 32 users (1 via USB and 31 via Ethernet or 32 users on Ethernet)
- Capable of downloading at speeds up to 100 times faster than 28.8k analog phone modem*
- No telephone lines needed - always on, always connected

SB5101 Cable Modem

- Compatible with Windows®, Macintosh®, and
- Unix® computers
- DOCSIS® 1.1 and 2.0 Certified
- 10/100Base-T Ethernet (RJ-45) and USB highspeed data ports
- Ethernet and USB cables included
- Installation Assistant program on CD-ROM guides you through installation on the PC
- Top-mounted Standby switch for increased security
- Front-panel LEDs indicate status and simplify troubleshooting
- User-friendly online diagnostics page
- Supports standard Internet software
- Supports up to 63 computers on a single Internet connection (additional networking hardware required)
- Remote configuration and monitoring from the headend using SNMP and TFTP
- Stylish and space-saving enclosure
- Multi-language User Guide on CD-ROM

CableLabs CERTIFIED

technicolor

DCM476 DOCSIS 3.0 Cable Modem

- DOCSIS 3.0 certified
- 96 MHz integrated tuner fully compliant with DOCSIS 3.0
- 1 Gigabit Ethernet port
- MPEG2 over IP Encapsulation solution
- Reliable high-performance platform
- Powerful processor and architecture
- Advanced Power Control
- BPI+ communications privacy to support secure data exchange between modems & cable operator's servers

Advanced Diagnostics

- Advanced web pages to facilitate installation and troubleshooting
- Easy configuration and set-up
- Remote access via Telnet, SNMP, Web Page
- Post-installation easily managed with SNMP

DCW775 DOCSIS 3.0 Wireless Cable Gateway

Wi Fi CERTIFIED

- DOCSIS® 3.0 certified
- 64 MHz dual tuner
- Backward-compatible with DOCSIS® 2.0 (and older)
- 4-port Gigabit Ethernet router
- MPEG2 over IP Encapsulation solution
- Wi-fi 11n wireless connection
- Reliable high-performance platform
- Advanced power management
- Supports IPv4 and IPv6
- Advanced security features

5363 DOCSIS 3.0 Cable Modem/Router with High-Performance Wireless 802.11ac

- DOCSIS 3.0/2.0/1.1 maximizes performance and compatibility
- 8 downstream and 4 upstream cable modem channels for downstream data rates up to 343 Mbps and upstream data rates up to 123 Mbps
- Advanced 11ac 3x3 wireless for very high performance
  - Up to 600 Mbps* at 2.4 GHz with Broadcom TurboQAM
  - Up to 1300 Mbps* at 5.0 GHz with Dynamic Frequency Selection (DFS) included and on; up to 488 Mbps maximum with DFS off**
  - 2.4 and 5.0 GHz radios, each with Broadcom BCM4360, can operate concurrently
  - AnyBeam at both 2.4 and 5.0 GHz. AnyBeam beamforming focuses the wireless signal on the wireless client even if that smartphone, computer, or other WiFi-capable device doesn't have beamforming technology.
  - Explicit beamforming at 5.0 GHz provides enhanced beamforming for wireless clients that include explicit beamforming capability
  - Uses three internal dual-band antennas orthogonally placed
  - Transmit power near but not above FCC limits on per channel power
- 1 GHz Full-band Capture Digital Tuning for high performance and flexible choice of data channels by service providers
- 4 GigE Ethernet ports with Auto Negotiation and Auto MDIX
- Model 5363's Ethernet and Wireless capabilities are standards based and work with all popular Ethernet-capable and WiFi® wireless devices
- IPv6/IPv4
- SNMPv1/v2c/v3 and TR-069 network management
- Enhanced RF Immunity
- Integrated MoCA reject filter
- Supports multiple SSIDs
- WiFi pairing button (WPS) for easy WiFi setup
- Advanced firewall security with parental controls, set through user's browser or by the service provider
- Unique factory-set security settings shown on bottom label (These are user-changeable using a browser.)

5352 DOCSIS 3.0 Cable Modem/Router with High-Performance Wireless-N

- DOCSIS 3.0 performance with CableLabs certification
- Up to 8 Downstream channels and 4 Upstream channels, for speeds as high as 343 Mbps on downloads and 123 Mbps on uploads with full band capture front end
- Provides shared high-speed Internet over cable to:
  - WiFi compatible wireless 802.11n, g, and b devices
  - Devices with an Ethernet port, including computers and game stations
- Easy setup and management with Universal Plug and Play (UPnP), WPS wireless security setup, and browser-based management
- An integrated four-port 10/100/1000 Ethernet switch
- Supports IPv6 and IPv4 for powerful, flexible network addressing
- Includes an advanced firewall and wireless security
- Two adjustable-position external antennas for extended wireless networking range
- Two-year warranty and support from Zoom, a USA-based leader in communications since 1977

5341 DOCSIS 3.0 Cable Modem/Router

- **Easy Installation**
- **Fast data speeds** - Up to 343 Mbps downstream and 123 Mbps upstream with bonding of up to eight channels on downloads and four channels on uploads
- **Fast 10/100/1000Base-T Ethernet connectivity** - To support the very fast DOCSIS 3.0 data transfers and provide compatibility and easy installation with almost any Windows, Mac or Linux computer, as well as both wired and wireless routers
- **Supports IPv4 and IPv6** - Support for the future of Internet addressing keeps your equipment current
- **Five status-reporting LEDs** - Power, Downstream, Upstream, Status, and Link lights allow easy status monitoring.
- **DOCSIS 3.0 compatible, as well as earlier standards** - Provides support for the latest data-over cable standard DOCSIS 3.0, as well as DOCSIS 1.1 and 2.0 to ensure operation with the fastest available services and compatibility with all US operators.
- **Extensive SNMP management support** - Includes MIB-II, Ethernet - Like MIB, Bridge MIB, Cable Device MIB, Baseline Privacy Interface MIB, RF Interface MIB

TDA-R-40-115 Series 1 GHz Drop Amplifier with Reverse

MODEL	TDA-R-40-115	TDA-R-40A-115	TDA-R-40-115-4	TDA-R-40A-115-4
Return Type	Passive	Active	Passive	Active
Configuration				
Outputs	1	1	4	4
Bandwidth				
Forward	54MHz-1GHz	54 MHz-1GHz	54MHz-1GHz	54MHz-1GHz
Reverse	5-42MHz	5-42 MHz	5-42MHz	5-42MHz
Gain / Loss (includes split loss)				
Forward	14.5dB ± 1dB	14.5dB ± 1dB	7.8dB ± 1dB	7.8dB ± 1dB
Reverse	-1dB ± .75dB	10dB ± 1dB	-8dB ± 1 dB	3.8dB ± .75 dB

TDA-35-1000 CATV Distribution Amplifier

- 1 GHz forward bandwidth
- GaAs-Fet push pull for high output levels with low distortion
- Active push pull reverse
- Gain and equalization controls
- RFI housing
- Diecast aluminum housing for heat dissipation
- UL and CE listed power transformers
- 117 or 230 volt
- Available in 5-42 MHz Reverse / 5-65 MHz Reverse

TDA31-34-1200 5-1200 MHz Docsis 3.1 Amplifier, 34 dB Gain 105-1200 MHz Forward, 18 dB 5-85 MHz Reverse

- DOCSIS 3.1 Broadband Compatible
- 1.2 GHz Bandwidth
- 105-1200 MHz Forward Path
- GaAs E-pHEMT Hybrid
- 34 dB Gain
- 6 dB Noise Figure
- JXP Style Plug-in Pads & Equalizers
- 5-85 MHz Reverse
- 18 dB Reverse Gain
- 90-240 Volt Power Supply
- Die Cast Aluminum Housing

HEA-37 1 GHZ, 2 Way, GaAs Power Doubling Headend Amplifier, 38 dB Gain

- 1 GHz forward bandwidth
- GaAs power doubler for high output levels and low distortions
- 38 dB gain with 47 dB output level (0 slope)
- Active push-pull reverse with user selectable active / passive operation
- Plug in pads and equalizers along with gain and slope control
- 1 RU rack mount chassis with external heat sink
- UL and CE listed external power transformer (110 / 230 VAC)
- Surge protection on all ports
- -30 dB test ports on both input and output
- Uses standard Toner TBLE pads and EQ's

TIBA-30-1000

Two Way Indoor Broadband Amplifier 1 GHz with GaAs-Hybrid / Power Doubling Technology, 30 dB Gain

- 54-1000 MHz forward path, 5-42 MHz reverse
- 30 dB forward gain, 24 dB reverse
- Plug-in attenuators and equalizers
- Variable gain and slope controls
- GaAs power doubling technology (forward)
- Separate UL listed universal power supply
- Extruded aluminum housing with heat sink for optimum heat dissipation

TIBA-40-1000

Two Way Indoor Broadband Amplifier 1 GHz with GaAs-Hybrid / Power Doubling Technology, 40 dB Gain

- 54-1000 MHz forward path, 5-42 MHz reverse
- 40 dB forward gain, 24 dB reverse
- Plug-in attenuators and equalizers
- Variable gain and slope controls
- GaAs power doubling technology (forward)
- Separate UL listed universal power supply
- Extruded aluminum housing with heat sink for optimum heat dissipation

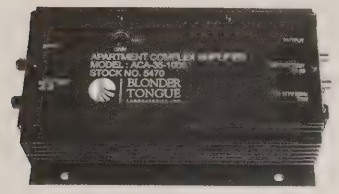
TBLE-1035-42 2 Way CATV 1000 MHz Broadband Line Extender with GaAs-Hybrid / Power Doubling Technology, 35 dB Gain

The Toner TBLE-1035-42 Line Extender amplifier is the latest addition to the Toner Line of distribution amplifiers. The TBLE-1035-42 features high performance GaAs-Hybrid for improved performance and better distortion characteristics. The amplifier is built in a die cast Aluminum outdoor housing that has integral neoprene rubber weather gasket and a stainless steel mesh RFI gasket. The housing features an automatic switching mode power supply for line powering in the 30 to 90 VAC range.

The amplifier features a 20 dB gain reverse amplifier for use in 2 way systems and can be ordered with one of 3 standard sub splits, 42/54 MHz, 55/70 MHz and 65/80 MHz. The diplex filters are the plug in type for easy field changes or repairs.

Blonder Tongue

ACA-30-550



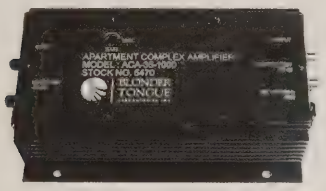
ACA Series Apartment Complex Amplifiers

- Models Available in 550, 750 and 860 MHz Bandwidths
- Built-in Variable Gain and Slope Controls
- Push-Pull Hybrid Module Design
- Aluminum Chassis Provides Excellent Heat Dissipation
- 5-30 MHz Passive Return Models

ACA-30-xxR

Specifications

RF	ACA 30-550	ACA 30-55R	ACA 30-75R	ACA 30-86R
Frequency Range (MHz):	47-550	5-30 47-550	5-30 47-750	5-30 47-860
Channel Loading:	77	77	110	129
Flatness (dB):	±1.00	±1.00	±1.00	±1.00
Gain (Reverse) (dB):	32, (--)	31, (-.75)	31, (-.75)	31, (-.75)



ACA 35-1000 Broadband CATV Distribution Amplifier

- One-Way Operation 40 to 1000 MHz
- Discrete Push-Pull Amplifier Stages
- Built-in Variable Gain Control
- Surface Mount Technology

RMDA Series Rack Mount Distribution Amplifier

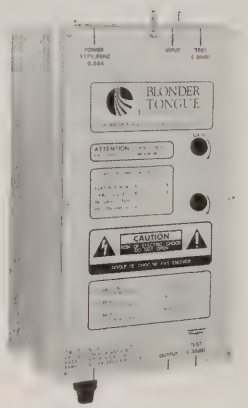
- Rack Mount - 1 EIA (1.75") Spacing, Rugged
- Aluminum Chassis
- Available in Frequency Ranges up to 1000 MHz
- Push-Pull and Power Doubling Models for High
- Output and Low Distortion
- Built-in Variable Gain and Slope Controls
- C-UL Listed

RMDA-ARP Series Rack-Mount Two-Way Distribution

- 860 MHz Push Pull Hybrid Technology
- 5-40 MHz Return Path, Field Selectable
- Active/Passive Operation
- Built-in Variable Gain and Slope Controls
- Optional Plug-in Forward Equalizer and Attenuator
- Optional Plug-in Reverse Attenuator

BIDA Series Two-Way Broadband Distribution Amplifier

- Interstage Variable Gain and Slope Controls
- Optional Plug-in Fixed Equalizer and Attenuator Capability For Input Signal Conditioning
- Integrated Return Path Configurable for either Passive or Active Operation
- Push-Pull and Powering Doubling Hybrid Models Available
- Input and Output Test Ports
- Large Heat Sinks for Exceptional Heat Dissipation



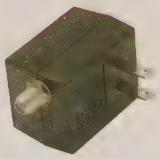
Model	Hybrid Technology	Forward Bandwidth	Forward Gain	Reverse Bandwidth	Reverse Gain
BIDA 550-30	Push Pull	47-550 MHz	30 dB	5-30 MHz*	24 dB
BIDA 550-50	Push Pull	47-550 MHz	50 dB	5-30 MHz*	24 dB
BIDA 750-30	Push Pull	47-750 MHz	30 dB	5-30 MHz*	24 dB
BIDA 55A-30	Push Pull	49-550 MHz	30 dB	5-36 MHz	20 dB
BIDA 55A-30P	Power Doubling	49-550 MHz	30 dB	5-36 MHz	20 dB
BIDA 55A-43	Push Pull	49-550 MHz	43 dB	5-36 MHz	20 dB
BIDA 55A-43P	Power Doubling	49-550 MHz	43 dB	5-36 MHz	20 dB
BIDA 75A-30	Push Pull	49-750 MHz	30 dB	5-36 MHz	20 dB
BIDA 75A-30P	Power Doubling	49-750 MHz	30 dB	5-36 MHz	20 dB
BIDA 75A-43	Push Pull	49-750 MHz	43 dB	5-36 MHz	20 dB
BIDA 75A-43P	Power Doubling	49-750 MHz	43 dB	5-36 MHz	20 dB
BIDA 86A-30	Push Pull	49-860 MHz	30 dB	5-36 MHz	20 dB
BIDA 86A-30P	Power Doubling	49-860 MHz	30 dB	5-36 MHz	20 dB
BIDA 86A-43	Push Pull	49-860 MHz	43 dB	5-36 MHz	20 dB
BIDA 86A-43P	Power Doubling	49-860 MHz	43 dB	5-36 MHz	20 dB
BIDA 86B-30P	Power Doubling	49-860 MHz	30 dB	5-42 MHz	20 dB
BIDA 86B-43	Push Pull	49-860 MHz	43 dB	5-42 MHz	20 dB
BIDA 86B-43P	Power Doubling	49-860 MHz	43 dB	5-42 MHz	20 dB
BIDA 100A-30	Push Pull	49-1000 MHz	30 dB	5-42 MHz	20 dB

* Requires reverse filter and reverse amp options, BIDA-RF & BIDA-RA

PICO DIGITAL

CDA Series 1 GHz CATV Drop Bi-Directional Amplifiers

- Forward bandwidth 54 to 1000MHz allows use in large broadband systems. Reverse bandwidth 5 to 42MHz allows interactive revenue generating services
- Ultra low 3dB noise figure provides clean distribution, reducing digital artifacts in digital signals, and provides clearer analog pictures
- 6kV surge protected on all ports to protect consumer equipment from transient voltages and line surges
- Output or independent power "F" port capability provides powerful flexibility option for local or remote powering
- External UL approved power supply for domestic and international use



Power Supply Included

CDA-1A

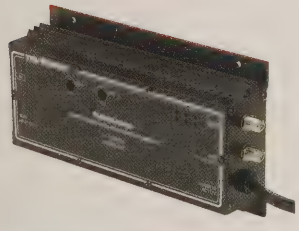
CDA-2A

CDA-4A

PIDA Series Broadband Bi-Directional Push-Pull Distribution Amplifiers

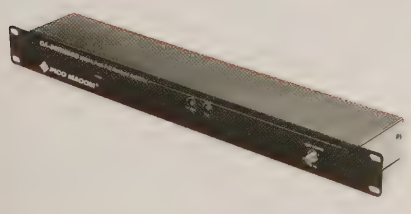
- 54~1000MHz (CATV 2~158) and 5~36MHz reverse bandwidth (CATV T7~T11)
- 30dB forward path gain and 20dB or passive reverse path gain (switchable) for maximum flexibility
- ±0.75dB flatness across band provides low distortion and excellent frequency response
- Employs dual state-of-the art push-pull hybrid technology for very low distortion, high input and output capability
- Optional plug-in equalizers and attenuators enable unity gain and slope system balancing for minimum distortion
- -30dB input and output test points enable simplified setup and performance monitoring without service interruptio
- Built-in lightning and line-voltage surge protection protects the unit from damage
- External UL approved power supply

CA-50/550 550 MHz High-Gain Distribution Amplifiers



- 554-550MHz frequency range (CATV 2~PPP)
- 50dB gain designed for low input applications to provide optimum carrier to noise performance
- ±0.75dB flatness per 100MHz provides low distortion and excellent frequency response
- Employs state-of-the-art hybrid push-pull technology for distortion-free audio-video quality
- Adjustable slope and gain controls for easy system balancing
- Easy-access controls and low-loss (-20dB) test point enable simplified setup and performance monitoring
- Built-in lightning and line voltage surge protection protects the unit from damage

CA-30RK550 550 MHz Push-Pull Headend Amplifiers
CA-30RK1000 1 MHz Push-Pull Headend Amplifiers



- 158 Channel frequency range
- 54~1000MHz (CATV 2~13, A1~A5, A~ZZZ, 89~158, UHF 14~69) (CA-30RK10000)
- 82 Channel frequency range 54~550MHz (CATV 2~13, A1~A5, A~PPP) (CA-30RK550)
- 30dB Gain for optimal carrier to noise ratio and superior picture quality
- ±0.5dB Flatness across band provides low distortion and excellent frequency response
- Front panel controls and test point enable easy setup and monitoring
- Built-in lightning and line voltage surge protection protects the unit from damage
- Low noise performance, eliminating addition of offending picture static

THOR DIGITAL

RG6-60R Series RG6-Coaxial Cable

60% Braid, R Rated, UL Listed, 3 GHz

These cables are available in:

- 1000' reel (black only)
- 1000' dispenser carton
- 500' dispenser carton
- 100' coil

The Thor Digital RG-6 coax cable is for distribution of both analog and digital television signals. It is ideally suited for Direct TV or Dishnet installations, antenna installations, Cable TV and other high frequency applications.

The cable features an 18 gauge copper clad steel center conductor, a gas expanded foamed polyethylene dielectric, a sealed APA laminated tape shield bonded to the dielectric, 60% aluminum braid shielding, and an protective UV resistant PVC outer jacket. The cable is available in either a Black or White PVC jacket.

Ordering Information

RG-6 60% braid	1000 ft	Box, Black	**RG6-60RBB-M**
RG-6 60% braid	1000 ft	Reel, Black	**RG6-60RBR-M**
RG-6 60% braid	500 ft	Box, Black	**RG6-60RBB-D**
RG-6 60% braid	100 ft	Coil, Black	**RG6-60RBC-C**
RG-6 60% braid	1000 ft	Box, White	**RG6-60RWB-M**
RG-6 60% braid	500 ft	Box, White	**RG6-60RWC-D**
RG-6 60% braid	100 ft	Coil, White	**RG6-60RWB-C**
RG-6 Quadshield	1000 ft	Reel, Black	**RG6-QSRBR-M**

Maximum Attenuation per 100 Ft

Frequency MHz	dB / 100 ft
5	0.58
55	1.50
187	2.85
211	3.05
400	4.15
500	4.66
750	5.65
860	6.10
1000	6.55
1200	7.35
1450	8.14
1750	8.91
2150	9.69
3000	11.70

RG6 Specifications

Braid Coverage	60%
Center Conductor	0.0403" 18 AWG copper clad steel
Dielectric	0.180" gas expanded foam
Sealed APA Tape	0.188"
Aluminum Braid	0.212" 34 AWG
Jacket PVC, Riser Rated, UV Resistant	0.273"
Ohms per 1000 ft DC Resistance	
Center Conductor	30.4
Outer Conductor	9.13
Loop	39.6
Nominal Capacitance	16.2 pF/Ft
Impendance	75 ± 3 Ohms
Velocity of Propagation	85% nominal

Quadshield Specifications

Braid Coverage	**Quadshield**
Center Conductor	0.040" 18 AWG Copper Clad Steel
Dielectric	0.180" Gas Expanded Foam Polyethylen
Shield 1	Bonded Aluminum-Polypropylene Tape
Shield 2	Aluminum Braid 60% Coverage
Shield 3	Aluminum-Polypropylene Tape
Shield 4	Aluminum Braid 40% Coverage
Jacket PVC, UV Resistant Riser Rated	0.297"
Jacket Thickness	0.033"
DC Resistance Center Conductor	28.6 Ω / 1000'
Nominal Capacitance	17.2 ± 1.0 pF/Ft
Impedance	75 ± 3 Ohms
Velocity of Propagation	85% nominal
Reel Size (Diameter x Width)	14.5 x 11.8
Weight	34.8 lbs

THOR DIGITAL

RG6 Plenum Series RG6 Plenum Coaxial Cable

60% Braid & Quadshield, UL Listed, 3 GHz

The Thor Digital RG-6 cable is for distribution of both analog and digital television signals. It is ideally suited for Direct TV or Dishnet installations, Antenna installations, Cable TV, and other high frequency applications.

As a plenum rated cable, the Thor Digital RG-6 cable is ideal for installation in HVAC return air plenums or anywhere a plenum rated cable is specified,

Available in both a 60% braid and a quadshield version for installation where necessary.

The cable features an 18 gauge copper clad steel center conductor, a gas expanded foamed FEP dielectric (plenum rated), a 60% braid or 60/40% quadshield shield and a protective white PVC (plenum rated) outer jacket.

	60%	Quadshield
Braid Coverage		
Center Conductor	0.040" 18 AWG Copper Clad Steel	
Dielectric	0.170" Foamed FEP (Plenum Rated)	
Shield 1	Bonded Aluminum-Polypropylene Tape	
Shield 2	Aluminum Braid 60% Coverage	
Shield 3	N/A	Aluminum-Polypropylene Tape
Shield 4	N/A	Aluminum Braid 40% Coverage
Jacket PVC, Plenum Rated	0.232"	0.260"
Jacket Thickness	0.015"	0.015"
DC Resistance Center Conductor	28.6 Ω / 1000'	
Nominal Capacitance	17.2 ± 1.0 pF/Ft	
Impedance	75 ± 3 Ohms	
Velocity of Propagation	85% nominal	
Reel Size (Diameter x Width)	14.5 x 8.6"	14.5 x 10.2"
Weight	32 lbs	38.8 lbs

Maximum Attenuation per 100 Ft	
Frequency MHz	**dB / 100 ft**
5	0.70
55	1.60
187	3.20
211	3.40
400	4.80
500	5.30
750	6.80
860	7.40
1000	8.10
1200	9.00
1450	9.90
1750	11.20
2150	13.20
3000	15.30

Ordering Information

RG-6 60% Braid Plenum	1000 ft	Reel, White	**RG6-60PWR-M**
RG-6 Quadshield Plenum	1000 ft	Reel, White	**RG6-QSPWR-M**

THOR DIGITAL

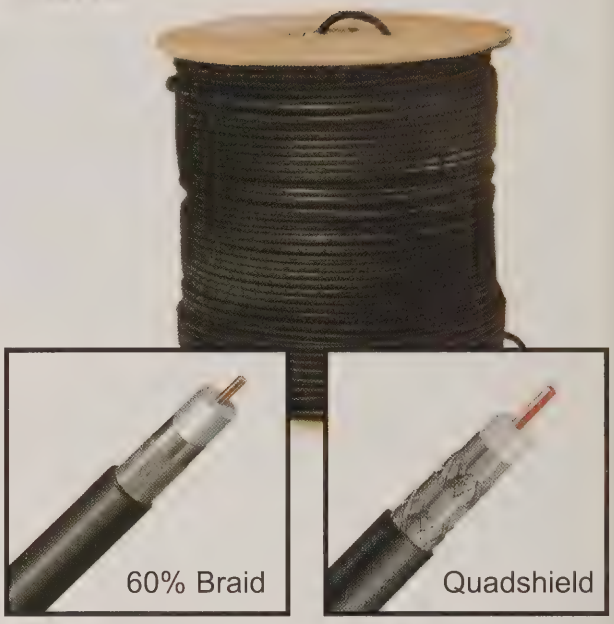
RG11 Series RG11 Coaxial Cable

60% Braid &Quadshield, UL Listed, 3 GHz

The Thor Digital RG-11 Riser Rated cable is for distribution of both analog and digital television signals. It is ideally suited for Direct TV or Dishnet installations, Antenna installations, Cable TV, and other high frequency applications.

Available in both a 60% braid and a quadshield version for installation where necessary.

The cable features a 14 gauge copper clad steel center conductor, a gas expanded foamed PE dielectric, a 60% braid or 60/40% quadshield shield and a protective black riser rated PVC outer jacket.



Braid Coverage	**60%**	**Quadshield**
Center Conductor	0.064" 14 AWG Copper Clad Steel	
Dielectric	0.280" Gas Expanded Foam Polyethylene	
Shield 1	Bonded Aluminum-Polypropylene Tape	
Shield 2	Aluminum Braid 60% Coverage	
Shield 3	N/A	Aluminum-Polypropylene Tape
Shield 4	N/A	Aluminum Braid 40% Coverage
Jacket PVC, R Rated	0.395"	0.407"
Jacket Thickness	0.042"	0.037"
DC Resistance Center Conductor	28.5 Ω / 1000'	
Nominal Capacitance	17.05 ± 1.0 pF/Ft	
Impedance	75 ± 3 Ohms	
Velocity of Propagation	85% nominal	
Reel Size (Diameter x Width)	15 x 19"	15 x 20"
Weight	58.2 lbs	63.7 lbs

Maximum Attenuation per 100 Ft	
Frequency MHz	**dB / 100 ft**
5	0.38
55	0.90
187	1.80
211	2.00
400	2.70
500	3.10
750	4.00
860	4.70
1000	5.00
1200	5.90
1450	6.60
1750	7.70
2150	8.80
3000	11.00

Ordering Information

RG-11 60% braid	1000 ft	Reel, Black	**RG11-60RBR-M**
RG-11 Quadshield	1000 ft	Reel, Black	**RG11-QSRBR-M**

THOR DIGITAL

RG11 Plenum Series RG6 Plenum Coaxial Cable

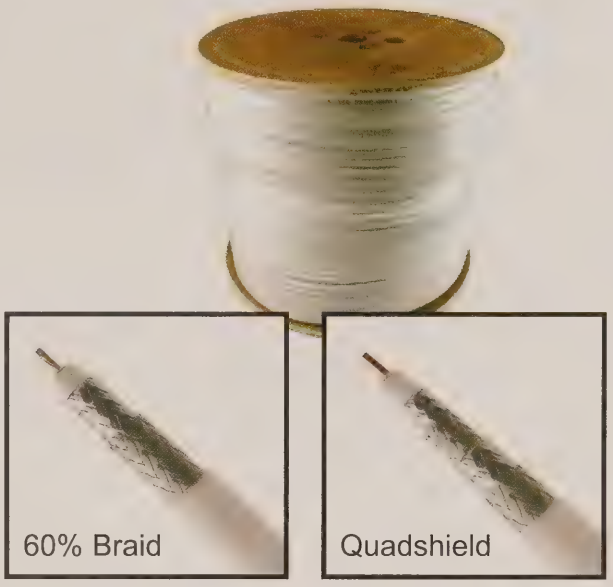
60% Braid & Quadshield, UL Listed, 3 GHz

The Thor Digital RG-11 Plenum cable is for distribution of both analog and digital television signals. It is ideally suited for Direct TV or Dishnet installations, Antenna installations, Cable TV, and other high frequency applications.

As a plenum rated cable, the Thor Digital RG-11 cable is ideal for installation in HVAC return air plenums or anywhere a plenum rated cable is specified.

Available in both a 60% braid and a quadshield version for installation where necessary.

The cable features a 14 gauge copper clad steel center conductor, a gas expanded foamed FEP dielectric (plenum rated), a 60% braid or 60/40% quadshield shield and a protective white PVC (plenum rated) outer jacket.



Braid Coverage	**60%**	**Quadshield**
Center Conductor	0.064" 14 AWG Copper Clad Steel	
Dielectric	0.280" Foamed FEP (Plenum Rated)	
Shield 1	Bonded Aluminum-Polypropylene Tape	
Shield 2	Aluminum Braid 60% Coverage	
Shield 3	N/A	Aluminum-Polypropylene Tape
Shield 4	N/A	Aluminum Braid 40% Coverage
Jacket PVC, Plenum Rated	0.350"	0.379"
Jacket Thickness	0.018"	0.018"
DC Resistance Center Conductor	11.8 Ω / 1000'	
Nominal Capacitance	17.05 ± 1.0 pF/Ft	
Impedance	75 ± 3 Ohms	
Velocity of Propagation	85% nominal	
Reel Size (Diameter x Width)	15 x 20"	15 x 20"
Weight	65 lbs	70.5 lbs

Maximum Attenuation per 100 Ft	
Frequency MHz	**dB / 100 ft**
5	0.45
55	0.90
187	1.80
211	2.00
400	2.80
500	3.30
750	4.20
860	4.70
1000	5.00
1200	5.90
1450	6.60
1750	7.70
2150	8.80
3000	11.00

Ordering Information

RG-11 60% Braid Plenum	1000 ft	Reel, White	**RG11-60PWR-M**
RG-11 Quadshield Plenum	1000 ft	Reel, White	**RG11-QSPWR-M**

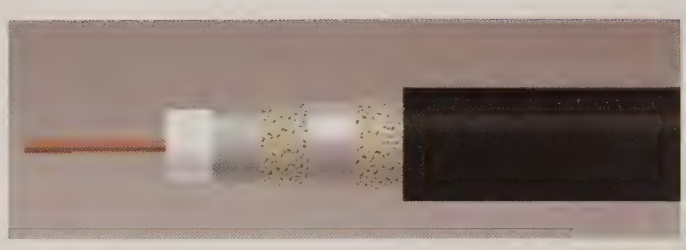
2240V/2241V

RG59 Series Headend Cable

TFC Amphenol

Series 59 Coaxial Cable

- Silver-Plated Copper Clad Steel Conductor
- Foamed Polyethylene Dielectric
- Bonded APA Laminate Shield
- 95% Aluminum Braid
- APA Laminate Shield
- Black PVC Jacket
- NEC820 (UL) CATV Listed



Part Number	Description	NEC / CSA Listing
2240V	Black - / HE	NEC 820 (UL) CATV
2241V	Colors* - / HE	NEC 820 (UL) CATV

Material	Detail	inches	mm
Inner Conductor	Silver-Plated Copper Clad Steel	0.0320	0.81
Dielectric	Foamed Polyethylene	0.144	3.66
1st Outer Conductor	Sealed APA Tape	0.152	3.86
2nd Outer Conductor	95% Aluminum Braid	0.176	4.47
3rd Outer Conductor	APA Tape	0.180	4.57
4th Outer Conductor	95% Aluminum	0.205	5.21
Floodant	--	--	--
Jacket	PVC, FR TYP (2), Black	0.262	6.65
Twisted Pairs	--	--	--
Messenger	--	--	--

Mechanical Specifications

Minimum Bend Radius, in (mm)		0.875	(22.23)
Product Weight	(less reel)	31 lbs/kft	

Electrical Specifications

Impedance	75 ± 3	
Velocity of Propagation, %	85	
Capacitance, Nominal	16.2 pF/ft	53.2 pF/m
DC Resistance	Ω / kft	Ω / km
Inner Conductor	25.30	83
Outer Conductor	3.57	12
Loop	28.9	95

Attenuation, Maximum @ 68°F (20°C)

Frequency, MHz	dB / 100 ft	dB / 100 m
5	0.86	2.82
55	2.05	6.73
211	3.80	12.47
250	4.10	13.45
270	4.22	13.85
300	4.45	14.60
330	4.66	15.29
350	4.80	15.75
400	5.10	16.73
450	5.40	17.72
500	5.70	18.70
550	5.95	19.52
600	6.20	20.34
750	6.97	22.87
870	7.57	24.84
1000	8.12	26.64

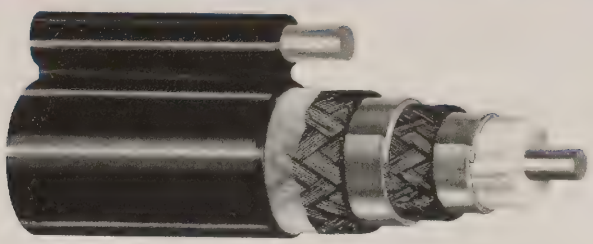
***Colors Available:**

Aqua	Pink
Blue	Red
Green	White
Orange	Yellow
Purple	

TFC

T10 Drop Cable

RG 6 Series Drop Cable



6 Series Drop Cable

PART NUMBERS

BRAID COVERAGE					
Construction	**STANDARD**	**PREMIUM**	**TRISHIELD**		**QUADSHIELD**
Nominal Braid Coverage %	**60**	**90**	**60**	**77**	**60-40**
PVC Jacket (Regular)					
Single					0
Single (Colors)					1
Single Messengered					4
Siamese					6
Siamese (Colors)					6
Siamese Messengered	2384	--	--	--	2284
PVC Jacket (Underground Floodant)					
Single Flooded	2386	2586	2624	2629	2260
Siamese Flooded	2353	2553	--	--	2296
PVC Jacket (lifeTime™ Floodant)					
Single Flooded	32360	32560	32622	32627	32260
Single Flooded Messengered	32364	32564	32623	32628	32264
Siamese Flooded	32396	--	--	--	32296
Siamese Flooded Messengered	32384	--	--	--	32284
PVC Jacket, Flame Retardant - CATV ⓊL Listed					
Single	2360V	2560V	2622V	2627V	2260V
Single (Colors)	2391V	2591V	2620V	2625V	2291V
Siamese	2396V	2596V	--	--	2296V
Siamese (Colors)	2356V	--	--	--	2256V
PVC Jacket, Flame Retardant with lifeTime™ - CATV ⓊL Listed					
Single Flooded	32360V	32560V	32622V	32627V	32260V
Single Flooded(Colors)	32391V	32591V	--	32625V	32291V
Siamese Flooded	32396V	32596V	--	--	32296V

T10 Drop Cable

RG 11 & 7 Series Drop Cable

11 Series Drop Cable

Part Numbers		
	BRAID COVERAGE	
Construction	STANDARD	QUADSHIELD
Nominal Braid Coverage %	53	53-32
Regular		
Single	2362	2262
Single (Colors)	--	--
Single Messengered (Pole-to-House)	2369	2269
Single Messengered (Pole-to-Pole)*	2366	2266
Siamese	--	--
Siamese (Colors)	--	--
Siamese Messengered	--	--
Underground		
Single Flooded	2382	2282
Siamese Flooded	--	--
lifeTime™		
Single	32362	32262
Single Messengered (Pole-to-House)	32369	32269
Single Messengered (Pole-to-Pole)*	32366	32266
Siamese	--	--

** Polyethylene jacket CATV rated (UL) listed, CSA - FT1 and FT4 certified products are also available.*

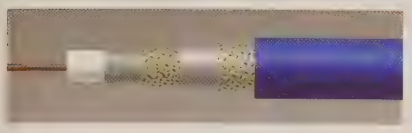
7 Series Drop Cable

Part Numbers			
	BRAID COVERAGE		
Construction	STANDARD	TRISHIELD	QUADSHIELD
Nominal Braid Coverage %	60	80	60.36
Regular PVC Jacket			
Single	2358	2680	2258
Single (Colors)	2373	2681	2258
Single Messengered	2371	--	2271
Underground			
Single Flooded	2372	--	2272
Siamese Flooded	--	--	
Single Flooded with PE Jacket	2380	--	--
lifeTime™			
Single	32358	--	32258
Single Messengered	32371	--	32269
Flame Retardant PVC - NEC Article 820 - "CATV (UL)"* **			
Single	2358V	--	2258V
Flame Retardant PVC w/lifeTime™ - NEC Article 820 - "CATV (UL)"* **			
Single	--	--	--

**** CSA-FT1: Change "V" to "F"*
CSA-FT4: Change "V" to "M"

Mini-Series Headend Cables

Standard Shield



75 Ω Mini-Series Coaxial Cable
Copper Conductor
Foamed Polyethylene Dielectric
Bonded APA Laminate Shield
95% Tinned Copper Braid
APA Laminate Shield
90% Tinned Copper Braid
Color PVC Jacket
NEC CEC 800 (UL) CMR-CMG Listed

Quad Shield

75 Ω Mini-Series Coaxial Cable
Copper Conductor
Foamed Polyethylene Dielectric
Bonded APA Laminate Shield
95% Tinned Copper Braid
Color PVC Jacket
NEC CEC 800 (UL) CMR-CMG Listed

Characteristics	Standard Shield		Quad Shield	
Material	Detail	inches / mm	Detail	inches / mm
Inner Conductor	Copper	0.0226 /0.57	Copper	0.0226 /0.57
Dielectric	Foamed Polyethylene	0.100 / 2.54	Foamed Polyethylene	0.100 / 2.54
1st Outer Conductor	Sealed APA Tape	0.106 / 2.69	Sealed APA Tape	0.106 / 2.69
2nd Outer Conductor	95% Tinned Copper Braid	0.131 / 3.33	95% Tinned Copper Braid	0.131 / 3.33
3rd Outer Conductor	—	—	APA Tape	0.135 / 3.43
4th Outer Conductor	—	—	90% Tinned Copper Braid	0.160 / 4.06
Jacket	PVC, Flame Retardant, Color	0.163 / 4.14	PVC, Flame Retardant, Color	0.185 / 4.70
Mechanical Specifications				
Minimum Bend Radius		0.75 / 19.05		0.75 / 19.05
Product Weight	(less reel)	19 lbs /kft	(less reel)	28 lbs /kft
Electrical Specifications				
Impedance, Ω	75 ± 3		75 ± 3	
Velocity of Propagation, %	83		83	
Capacitance, Nominal	16.2 pF/ft	53.1 pF/m	16.2 pF/ft	53.1 pF/m
DC Resistance	Ω / kft	Ω / km	Ω / kft	Ω / km
Inner Conductor	21.0	69	21.0	69
Outer Conductor	7.60	25	3.00	10
Loop	28.6	94	24.0	79

Attenuation, Max. @ 68 °F (20 °C)	
Frequency, MHz	dB/100 ft/m
5	0.96 / 3.15
55	2.73 / 8.96
211	5.04 / 16.54
250	5.48 / 17.98
270	5.70 / 18.70
300	6.01 / 19.72
330	6.31 / 20.70
350	6.51 / 21.36
400	6.98 / 22.90
450	7.37 / 24.18
500	7.86 / 25.79
550	8.27 / 27.13
600	8.66 / 28.41
750	9.75 / 31.99
870	10.53 / 34.55
1000	11.34 / 37.20
1200	12.37 / 40.58
1500	13.78 / 45.21
2000	15.95 / 52.33
2250	16.96 / 55.64
3000	19.61 / 64.34

TX Flexible Feeder® TX10-15 Low Loss Drop Feeder

Cable Construction

- Copper-Clad Aluminum Inner Conductor
- Foamed PE Dielectric
- Sealed APA Tape 1st Outer Conductor
- Aluminum 60% Braid 2nd Outer Conductor
- Black PVC Flame Retardant Jacket
- Perfect for Multiple Dwelling Units and Any Other Settings Requiring High Flexibility and Low Attenuation of Signal Strength

Signal Strength of a Hardline Cable with the Flexibility of a Drop Cable

Part Numbers		
	BRAID COVERAGE	
Construction	STANDARD	QUADSHIELD
Nominal Braid Coverage %	60	60-40
PVC Jacket (Regular)		
Single	02850 TX15A60-VB	02852 TX15AQ-VB
Single (Colors)	--	--
Single Messengered	02853 TX15A60-109M	02854 TX15AQ-VB-109M
Polyethylene Jacket (Underground Floodant)		
Single Flooded	02851 TX15A60-FEB	02858 TX15AQ-FEB
Single (Colors)	--	02859 TX15AQ-FEC
PVC Jacket (lifeTime Floodant)		
Single Flooded	32850 TX15A60-LTVB	32852 TX15AQ-LTVB
Single Flooded Messengered	--	32854 TX15AQ-LTVB-109M
PVC Jacket, Flame Retardant - NEC Article 820 - "CATV Ⓤ		
Single Flooded	02850V TX15A60-VBV	02852V TX15AQ-VBV
Single (Colors)	--	--
PVC Jacket, Flame Retardant w/lifeTime™ - NEC Article 820 - "CATVR Ⓤ		
Single	02850R TX15A60-VBR	02852R TX15AQ-VBR
Single (Colors)	--	--

MAXIMUM ATTENUATION @ 68°F(20 C)		
Frequency MHz	dB per 100 feet	dB per 100 meters
5	0.21	0.69
55	0.60	1.97
211	1.16	3.81
250	1.26	4.13
270	1.31	4.30
300	1.39	4.56
330	1.45	4.76
350	1.50	4.92
400	1.61	5.28
450	1.71	5.61
500	1.80	5.91
550	1.90	6.23
600	1.98	6.50
750	2.23	7.32
870	2.41	7.91
1000	2.59	8.50

Attenuation increases with increasing temperatures and decreases with decreasing temperature at the rate of 0.1%/ °F (0.18%/°C)

500 Series Semiflex Cable

Part Numbers		
Construction	CENTER CONDUCTOR	
	Cooper-Clad Aluminum	
	Part Number	MI Number
Unjacketed	T10500	24500
Unjacketed, Tracer Coded	T10500VI	24510
Jacketed	T10500J	24501
Jacketed, Extra Thick Jacket	T10500JX	24506
Jacketed, Extra Thick Jacket, Tracer Coded	T10500JXVI	24516
Jacketed, Tracer Coded	T10500JVI	24511
Jacketed Messengered	T10500MS	24505
Jacketed Flooded, Underground	T10500JB	24502
Jacketed Flooded, Underground, Extra Thick Jacket	T10500JBX	24507
Jacketed Flooded, Underground, Extra Thick Jacket, Tracer Coded	T10500JBXVI	24517
Jacketed Flooded, Underground, Tracer Coded	T10500JBVI	24512
Jacketed Flooded, Aerial	T10500JBF	24504
Jacketed Flooded, Aerial, Tracer Coded	T10500JBFVI	24514
Jacketed Armored	T10500JBA	24503
Jacketed Armored, Tracer Coded	T10500JBAVI	24513
NEC - Article 820, CAT (UL) listed, Unjacketed	T10500V	24500V

625 Series Semiflex Cable

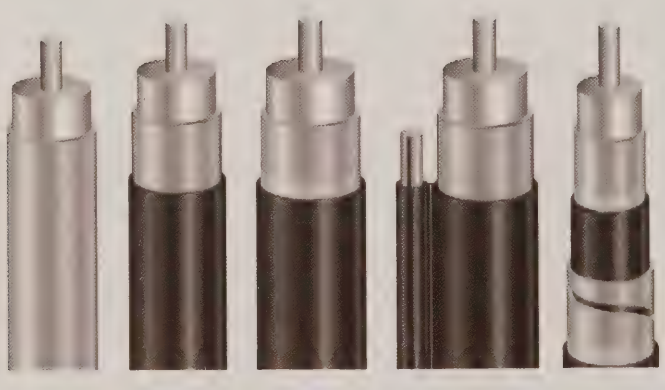
Part Numbers		
Construction	CENTER CONDUCTOR	
	Cooper-Clad Aluminum	
	Part Number	MI Number
Unjacketed	T10625	24600
Unjacketed, Tracer Coded	T10625VI	24610
Jacketed	T10625J	24601
Jacketed, Extra Thick Jacket	T10625JX	24606
Jacketed, Extra Thick Jacket, Tracer Coded	T10625JXVI	24516
Jacketed, Tracer Coded	T10625JVI	24611
Jacketed Messengered	T10625MS	24605
Jacketed Flooded, Underground	T10625JB	24602
Jacketed Flooded, Underground, Extra Thick Jacket	T10625JBX	24607
Jacketed Flooded, Underground, Extra Thick Jacket, Tracer Coded	T10625JBXVI	24617
Jacketed Flooded, Underground, Tracer Coded	T10625JBVI	24612
Jacketed Flooded, Aerial	T10625JBF	24604
Jacketed Flooded, Aerial, Tracer Coded	T10625JBFVI	24614
Jacketed Armored	T10625JBA	24603
Jacketed Armored, Tracer Coded	T10625JBAVI	24613
NEC - Article 820, CAT (UL) listed, Unjacketed	T10625V	24600V

750 Series Semiflex Cable

Part Numbers		
Construction	CENTER CONDUCTOR Cooper-Clad Aluminum	
	Part Number	MI Number
Unjacketed	T10750	24700
Unjacketed, Color Coded	T10750VI	24710
Jacketed	T10750J	24701
Jacketed, Color Coded	T10750JVI	24711
Jacketed Messengered	--	--
Jacketed Flooded, Polyisobutylene	T10750JB	24702
Jacketed Flooded, Polyisobutylene, Color Coded	T10750JBVI	24712
Jacketed Flooded, Asphalt	T10750JBF	24704
Jacketed Flooded, Asphalt, Color Coded	T10750JBFVI	24714
Armored	T10750JBA	24703
Armored, Color Coded	T10750JBAVI	24713
CATV Rated, UL listed	T10750VI	24700V

875 Series Semiflex Cable

Part Numbers		
Construction	CENTER CONDUCTOR Cooper-Clad Aluminum	
	Part Number	MI Number
Unjacketed	T10875	24800
Unjacketed, Color Coded	T10875VI	24810
Jacketed	T10875J	24801
Jacketed, Color Coded	T10875JVI	24811
Jacketed Messengered	--	--
Jacketed Flooded, Polyisobutylene	T10875JB	24802
Jacketed Flooded, Polyisobutylene, Color Coded	T10875JBVI	24812
Jacketed Flooded, Asphalt	T10875JBF	24804
Jacketed Flooded, Asphalt, Color Coded	T10875JBFVI	24814
Armored	T10875JBA	24803
Armored, Color Coded	T10875JBAVI	24813
CATV Rated, UL listed	T10875VI	24800V



Corning Gilbert

G2 Series

2-Piece Trunk & Distribution Connectors

Connector Specifications

Bandwidth:
5 MHz to 1 GHz

Operating Range:
-40°F to +140°F

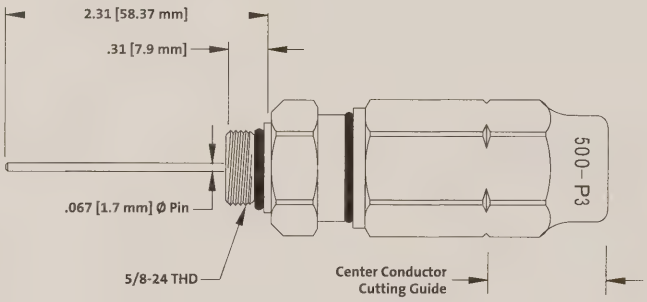
Nominal Impedance:
75 ohms

Shielding Effectiveness:
> 130 dB

Return Loss:
30 dB minimum

Insertion Loss:
< 0.12 dB (pin types)

Cable Retention:
Exceeds cable manufacturers' maximum pulling tension specifications



Ordering Information[2]

[2] General Ordering Information:

CH	Pin Connector
SP	Splice Connector
EXT	3" Extension Connector
EXT-6	6" Extension Connector
BAFF	"F" Female Connector
AFM	"F" Male Connector
TR	Cable Terminator

CommScope P-3

Times Fiber T-10	Part Number
.500	G2-500-TYPE[2]-P3
.625	G2-625-TYPE[2]-P3
.750	G2-750-TYPE[2]-P3
.875	G2-875-TYPE[2]-P3

CommScope QR

.540	G2-540-TYPE[2]-QR
.715	G2-715-TYPE[2]-QR
.860	G2-860-TYPE[2]-QR

Times Fiber TX	Part Number
.565	G2-565-TYPE[2]-TX
.700	G2-700-TYPE[2]-TX
.840	G2- 840-TYPE[2]-TX

Trilogy MC[2]

.500	G2-500-TYPE[2]-MC[2]
.650	G2-650-TYPE[2]-MC[2]
.750	G2-750-TYPE[2]-MC[2]

CommScope P-1

.500	G2-500-TYPE[2]-P1
.750	G2-500-TYPE[2]-P1

Detailed Information On Products, Please Visit Our Website www.tonercable.com

Toner Cable Equipment, Inc. 800-523-5947
• Phone 215-675-2053 • Fax: 215-675-7543 • info@tonercable.com • www.tonercable.com

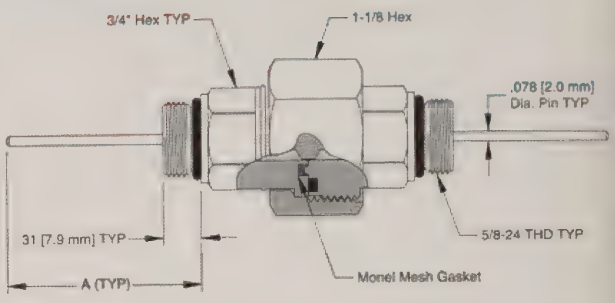
Trunk & Distribution Connectors & Adapters

Corning Gilbert

Housing to Housing Rotational Adapter

PART NUMBER	DESCRIPTION	A
G-KS-KS-M-T		2.31
G-KS-KS-MLK-T	Locking Rotational	2.31

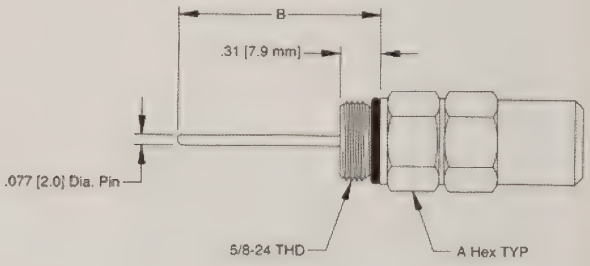
Dimensions are in inches [millimeters]



Housing Terminator

PART NUMBER	MATERIAL	A	B
GTR-KS-M-T	Brass	3/4"	2.31
GTR-M-T	Aluminum	11/16"	2.31

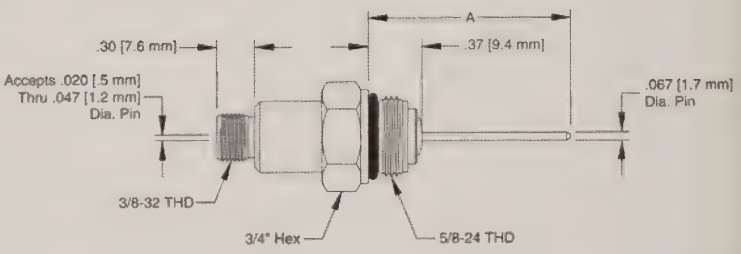
Dimensions are in inches [millimeters]



KS Male to "F" Female Adapter

PART NUMBER	A
GF-625-CH-T	2.31

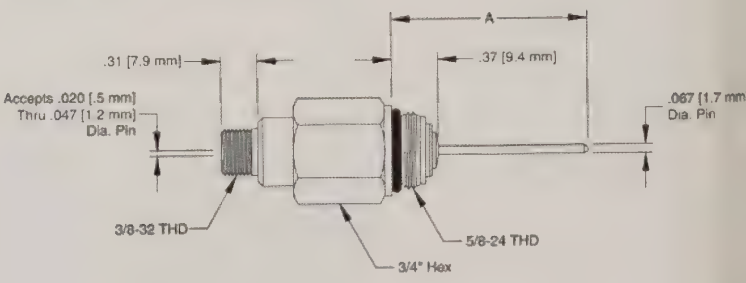
Dimensions are in inches [millimeters]



KS Male to "F" Female 60 Hz AC Power Blocking

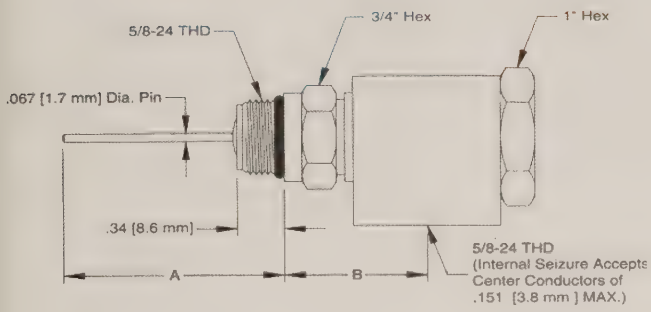
PART NUMBER	A	DESCRIPTION
GF-625-CH-DCB-T	2.31	60 Hz AC power block

Dimensions are in inches [millimeters]



Corning Gilbert

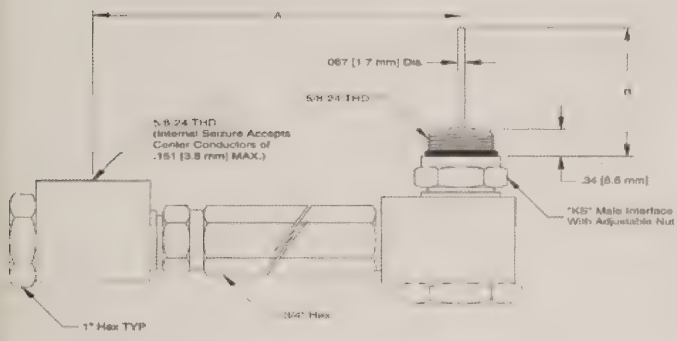
Trunk & Distribution Connectors & Adapters



90 Degree Seizure Screw Adapters

PART NUMBER	A	B
GP-90-T	2.31	1.00
GP-90-3.0-T	2.31	2.22
GP-90-4.5-T	2.31	3.72

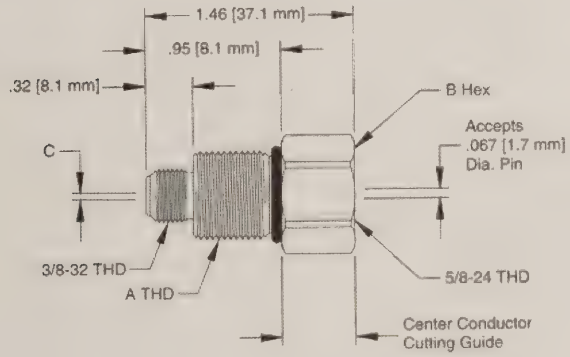
Dimensions are in inches [millimeters]



180 Degree Seizure Screw Adapters

PART NUMBER	A	B
GP-PA-T	5.18	2.31
GP-PA-3.0-T	3.00	2.31
GP-PA-4.5-T	4.50	2.31

Dimensions are in inches [millimeters]



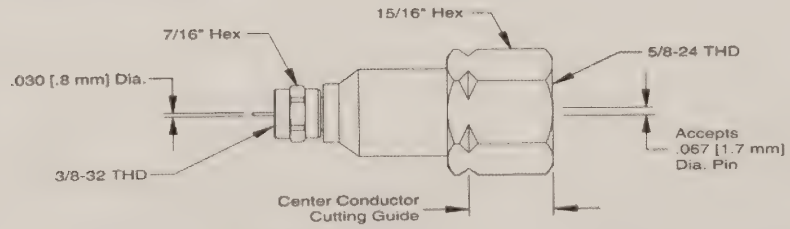
KS Female to "F" Female Adapters

PART NUMBER	CONTACT STYLE	A	B	C
G-CH-BAFF-KS	Spring	5/8-24	3/4	.022-.047

Dimensions are in inches [millimeters]

KS Female to "F" Male Adapters

PART NUMBER
G-CH-AFM



ACC Series Hardline Connectors

TFC Amphenol

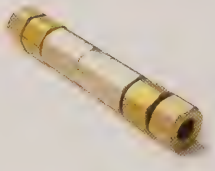
Three Piece Pin Type Connectors

Cable Type	Dimensions, inches (mm) A	B	C	Amphenol Number
TFC T10/Commscope P3	2.850 (72)	1.090 (28)	1.000 (25)	ACC-412AFMT10
	2.850 (72)	1.090 (28)	1.000 (25)	ACC-500-AFMT10
	2.850 (72)	1.250 (32)	1.125 (29)	ACC-625AFMT10
	2.850 (72)	1.370 (35)	1.250 (32)	ACC-750AFMT10
	2.850 (72)	1.500 (38)	1.375 (35)	ACC-875AFMT10
	2.850 (72)	1.625 (41)	1.500 (38)	ACC-1000AFMT10
TFC TXT10	2.850 (72)	1.250 (32)	1.125 (29)	ACC-565AFMTX
	2.850 (72)	1.370 (35)	1.250 (32)	ACC-700AFMTX
	2.850 (72)	1.500 (38)	1.375 (35)	ACC-840AFMTX
	2.850 (72)	1.875 (48)	1.750 (44)	ACC-1160AFMTX
Trilogy MC2	2.850 (72)	1.090 (28)	1.000 (25)	ACC-500AFMMC
	2.850 (72)	1.370 (35)	1.250 (32)	ACC-650AFMMC
	2.850 (72)	1.500 (38)	1.375 (35)	ACC-750AFMMC
Commscope QR	3.000 (76)	1.250 (32)	1.125 (29)	ACC-540AFMQR
	3.100 (79)	1.500 (38)	1.375 (35)	ACC-715AFMQR
	3.100 (79)	1.625 (41)	1.500 (38)	ACC-860AFMQR
	3.200 (81)	1.875 (48)	1.750 (44)	ACC-1125AFMQR

Amphenol ACC-625CHT10

Three Piece Splice Connectors

Cable Type	Dimensions, inches (mm) A	B	C	Amphenol Number
TFC T10/Commscope P3	5.840 (148)	1.090 (28)	1.000 (25)	ACC-412SPT10
	5.840 (148)	1.090 (28)	1.000 (25)	ACC-500SPT10
	5.840 (148)	1.250 (32)	1.125 (29)	ACC-625SPT10
	6.040 (153)	1.370 (35)	1.250 (32)	ACC-750SPT10
	6.040 (153)	1.500 (38)	1.375 (35)	ACC-875SPT10
	6.040 (153)	1.625 (41)	1.500 (38)	ACC-100SPT10
TFC TXT10	6.040 (148)	1.250 (32)	1.125 (29)	ACC-565SPTX
	6.040 (148)	1.370 (35)	1.250 (32)	ACC-700SPTX
	6.040 (148)	1.500 (38)	1.375 (35)	ACC-840SPTX
	5.840 (148)	1.875 (48)	1.750 (44)	ACC-1160SPTX
Trilogy MC2	5.840 (148)	1.090 (28)	1.000 (25)	ACC-440SPMC
	6.040 (148)	1.090 (28)	1.000 (25)	ACC-500SPMC
	6.040 (148)	1.370 (35)	1.250 (32)	ACC-650SPMC
	6.040 (148)	1.500 (38)	1.375 (35)	ACC-750SPMC
	6.100 (155)	1.875 (48)	1.750 (44)	ACC-1000SPMC
Commscope QR	6.270 (159)	1.250 (32)	1.125 (29)	ACC-540SPQR
	6.270 (159)	1.500 (38)	1.375 (35)	ACC-715SPQR
	6.300 (160)	1.625 (41)	1.500 (38)	ACC-860SPQR
	6.300 (160)	1.875 (48)	1.750 (44)	ACC-1125SPQR



Amphenol ACC-500SPT10

Three Piece Feed Thru Connectors

Cable Type	Dimensions, inches (mm) A	B	C	Amphenol Number
TFC T10/Commscope P3	2.155 (55)	1.090 (28)	1.000 (25)	ACC-500BT10
TFC TXT10	2.155 (55)	1.250 (32)	1.125 (29)	ACC-565BTX
Commscope QR	2.155 (55)	1.250 (32)	1.125 (29)	ACC-540BQR

Amphenol ACC-500BT10

Three Piece F Male Connectors (AFM)

Cable Type	A	B	C	Amphenol Number
TFC T10/Commscope P3	2.850 (72)	1.090 (28)	1.000 (25)	ACC-412AFMT10
	2.850 (72)	1.090 (28)	1.000 (25)	ACC-500-AFMT10
	2.850 (72)	1.250 (32)	1.125 (29)	ACC-625AFMT10
	2.850 (72)	1.370 (35)	1.250 (32)	ACC-750AFMT10
	2.850 (72)	1.500 (38)	1.375 (35)	ACC-875AFMT10
	2.850 (72)	1.625 (41)	1.500 (38)	ACC-1000AFMT10
TFC TXT10	2.850 (72)	1.250 (32)	1.125 (29)	ACC-565AFMTX
	2.850 (72)	1.370 (35)	1.250 (32)	ACC-700AFMTX
	2.850 (72)	1.500 (38)	1.375 (35)	ACC-840AFMTX
	2.850 (72)	1.875 (48)	1.750 (44)	ACC-1160AFMTX
Trilogy MC2	2.850 (72)	1.090 (28)	1.000 (25)	ACC-500AFMMC
	2.850 (72)	1.370 (35)	1.250 (32)	ACC-650AFMMC
	2.850 (72)	1.500 (38)	1.375 (35)	ACC-750AFMMC
Commscope QR	3.000 (76)	1.250 (32)	1.125 (29)	ACC-540AFMQR
	3.100 (79)	1.500 (38)	1.375 (35)	ACC-715AFMQR
	3.100 (79)	1.625 (41)	1.500 (38)	ACC-860AFMQR
	3.200 (81)	1.875 (48)	1.750 (44)	ACC-1125AFMQR

Amphenol ACC-500AFMT10

Three Piece F Female Connectors (BAFF)

Cable Type	Dimensions, inches (mm) A	B	C	Amphenol Number
TFCT10/Commscope P3	3.130 (80)	1.090 (28)	1.000 (25)	ACC-412BAFFT10
	3.130 (80)	1.090 (28)	1.000 (25)	ACC-500BAFFT10
	3.130 (80)	1.250 (32)	1.125 (29)	ACC-625BAFFT10
	3.220 (82)	1.370 (35)	1.250 (32)	ACC-750BAFFT10
	3.220 (82)	1.500 (38)	1.375 (35)	ACC-875BAFFT10
	3.220 (82)	1.625 (41)	1.500 (38)	ACC-100BAFFT10
TFC TXT10	3.130 (80)	1.250 (32)	1.125 (29)	ACC-565BAFFTX
	3.220 (82)	1.370 (35)	1.250 (32)	ACC-700BAFFTX
	3.220 (82)	1.500 (38)	1.375 (35)	ACC-840BAFFTX
	3.220 (82)	1.875 (48)	1.750 (44)	ACC-1160BAFFTX
Trilogy MC2	3.130 (80)	1.090 (28)	1.000 (25)	ACC-500BAFFMC
	3.220 (82)	1.370 (35)	1.250 (32)	ACC-650BAFFMC
	3.220 (82)	1.500 (38)	1.375 (35)	ACC-750BAFFMC
Commscope QR	3.220 (82)	1.250 (32)	1.125 (29)	ACC-540BAFFQR
	3.340 (85)	1.500 (38)	1.375 (35)	ACC-715BAFFQR
	3.340 (85)	1.625 (41)	1.500 (38)	ACC-860BAFFQR
	3.340 (85)	1.875 (48)	1.750 (44)	ACC-1125BAFFQR

Amphenol ACC-500BAFFT10

TFC Amphenol Connectors & Adapters

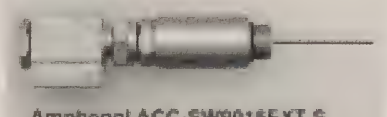
90° Adapters

Amphenol Number	Description	Dimensions, inches (mm) A
ACC-90	90°	1.0 (25)
ACC-SW90	90° Swivel	1.3 (33)

Amphenol ACC-SW90-S

ACC-90 90° Adapter
ACC-SW90 90° Swivel Adapter
ACC-90S 90° Adapter Seizureless
ACC-SW90S 90° Swivel Adapter Seizureless

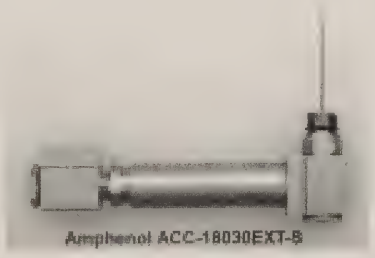
Amphenol Number	Description	Dimensions, inches (mm) A
ACC-90	90° Extension	1.5 (38)
ACC-9015EXT	90° Extension	3.0 (76)
ACC-9030EXT	90° Extension	4.5 (114)
ACC-9045EXT	90° Extension	6.0 (152)
ACC-9060EXT	90° Extension	9.0 (229)
ACC-SW9015EXT	90° Swivel Extension	2.8 (71)
ACC-SW9030EXT	90° Swivel Extension	4.3 (109)
ACC-SW9045EXT	90° Swivel Extension	1.0 (25)
ACC-SW9060EXT	90° Swivel Extension	1.0 (25)


Amphenol ACC-SW9015EXT-S

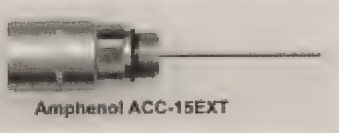
ACC-90XXEXT 90° Extension Adapter
ACC-SW90XXEXT 90° Swivel Extension Adapter
ACC-90XXEXT-S 90° Extension Adapter Seizureless
ACC-SW90XXEXT-S 90° Swivel Extension Adapter Seizureless

180° Adapters

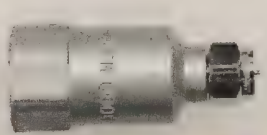
Amphenol Number	Description	Dimensions, inches (mm) A
ACC-18015EXT	180°	3.1 (79)
ACC-18030EXT	180°	4.6 (117)
ACC-18045EXT	180°	6.1 (155)
ACC-18060EXT	180°	7.6 (193)


Amphenol ACC-18030EXT-S

Amphenol Number	Description	Dimensions, inches (mm) A
ACC-15EXT	Straight Extension	1.5 (38)
ACC-30EXT	Straight Extension	3.0 (76)
ACC-45EXT	Straight Extension	4.5 (114)
ACC-60EXT	Straight Extension	6.0 (152)
ACC-90EXT	Straight Extension	9.0 (229)
ACC-120EXT	Straight Extension	12.0 (305)


Amphenol ACC-15EXT

KS Female to "F" Male Adapter


Amphenol ACC-AFM

Housing to Housing (KS to KS)

Amphenol ACC-HSG-HSG-NR

Chassis to Chassis

Amphenol ACC-HSG-HSG-F

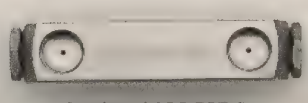
Housing to F Female

Amphenol ACC-F-625-CH

F Female to Housing
ACC-F625CH

F Female to Housing with Power Blocking
ACC-F625CHDCB

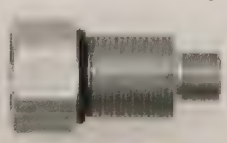
Pedestal Splice


Amphenol ACC-PSB-S

Port Terminator

Amphenol ACC-TRM

KS Female to "F" Female Adapter


Amphenol ACC-BAFF

EZ-F Series RG6 Compression Type

F Connector (Universal Type)

The EZ-F56U connectors are one piece compression type connectors designed for easy installation on RG 6 coaxial cable.

The connectors feature a precision machined brass body for strength and durability along with high RF shielding.

They also feature a Acetal POM Popolymer compression mechanism for superior strength, weather resistance and cable retention.

The connectors are universal type which will fit cables with shielding from standard 60% to quadshield.

An easy to use compression tool, model EZ-596-CT, is available for connector installation. Standard cable strip tools are used, such as the Toner CST-59611 to prepare the cable.

Features & Specifications

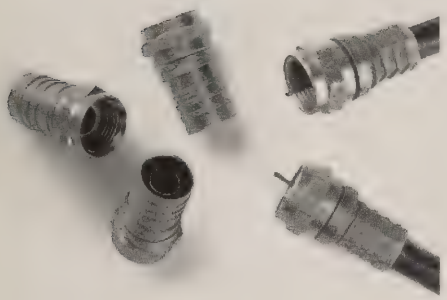
- Single Piece Design
- Machined Brass Body
- Acetal POM Popolymer Compression Mechanism
- 7/16" Nut Size
- Universal for Standard to Quadshield Cable
- Meets SCTE Standards
- EZ-596-CT Compression Tool
- Free Turning Hex Nut for Easy Installation on F Ports
- 5-2200 MHz Bandwidth
- 25 dB Return Loss
- >0.3 dB Insertion Loss
- 20KG Cable Retention Force
- Brass Body
- Nickel Plated
- 20 KPA / 20 SEC Water Test

Ordering Information

EZ-F56U	F Type RG6 Compression Connector	Qty 100
EZ-596-CT	F Type Compression Tool	Qty 1
EZ-B56U	BNC Type RG6 Compression Connector	Qty 50 ***
EZ-R56U	RCA Type RG6 Compression Connector	Qty 50 ***
EZ-BR6-CT	BNC/RCA Compression Tool	Qty 1 ***

"F" Connectors & Adapters

One-Piece F Connectors with Attached Rings for RG-59, RG-6, RG-7 & RG-11 Cables



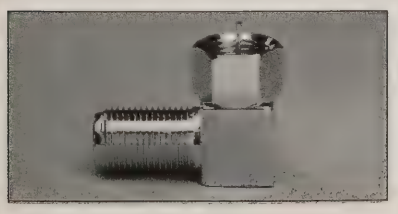
- **Quality Plating**
  Provides maximum corrosion protection
- **Annealed ring**
  Provides easy crimp with maximum holding power without rupturing
- **Hex crimp design**
  One-half inch crimp ring with mandrel provides secure grip and maximum pull strength
- **Uses standard .324 hex crimp tool**
  Uniform O.D. 9.55 mm (.375 inch) on all models, allows single crimp tool with .324 inch hex dimension (flat to flat) to be used (mandrel heights may vary with different models; O.D. is constant)
- **One piece attached ring**
  Ensures even distribution of pressure, thus eliminating shield fatigue caused by flexing or tension cable. Attached ring construction provides excellent shielding and prevents RF leakage

Standard Hex Crimp One Piece F Connectors

Model	Cable size	Application	Hex Crimp size
F59-290	RG-59	Standard up to 67% braid	0.324"
F59-312	RG-59	90% braid, Trishield and Quadshield	0.324"
F59-342	RG-59	Double 90% headend cable	0.324"
F56-324	RG-6	Standard up to 67% braid	0.324"
F56-342	RG-6	90% braid, Trishield and Quadshield	0.324"
F11-ALM	RG-11	Standard up to 67% braid. One piece connector with .038" integral center pin	0.475"

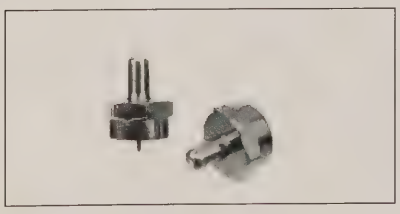
F-90
Right Angle F Female to F Male Adapter

- Die Cast Construction
- Machined 3/8-32 Threads
- Bright Acid Tin Plating



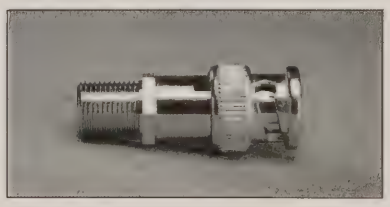
F59-T
75W F Port Male Terminator

- Solid Brass Body
- Bright Acid Tin Plating
- Machined 3/8-32 UNEF Threads
- 1/4 Watt Resistor
- 20 dB Return Loss



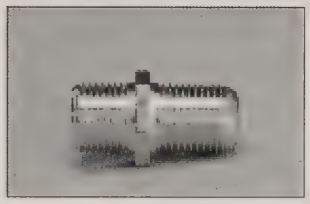
BFA
BNC Male to F Female Adapter

- Adapts 75W F to 75W BNC
- Solid Brass Body
- Bright Acid Tin Plating



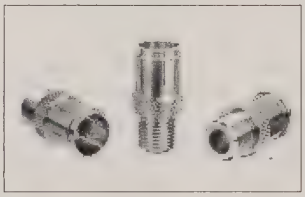
"F" Adapters & Accessories

F-81
Female F Type Splice Connector (Barrel)
- 7/16" hex
- Bright Acid Tin Plating



NW-81
Nut and Washer for F-81 or any Female F Connector
- Plated Mild Steel
- Machined 3/8-32 Threads

PF-59
Push-On F Adapter
Female F Fitting to Male F Push-On Adapter
- Solid Brass Body
- Bright Acid Tin Plating
- Machined 3/8-32 UNEF Threads

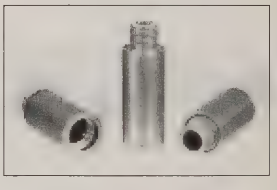


FF-R
F Female to RCA Male Adapter
- Solid Brass Body
- Machined 3/8-32 Threads
- Bright Acid Tin Plating

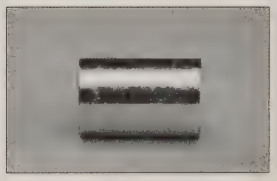
F-81NW
Female F Type Splice with Nut and Washer
- For installation in Wall Plates or panels
- 7/16" hex
- Bright Acid Tin Plating

F-71
Male F Type Splice
- 3/8-32 UNEF Threads
- Bright Acid Tin Plating

TLT-59
Locking F Port Terminator
- Machined Aluminum Swivel body with internal 75 terminator
- Uses Standard GTP tool



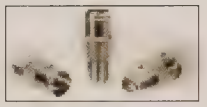
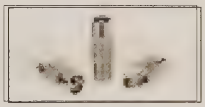
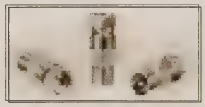
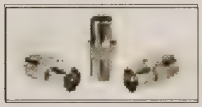
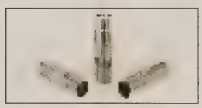
SS-1D
Security Sleeve
Prevents the Unauthorized Removal/Connection of F Connectors
- Die Cast Construction
- 1" Length
- Zinc Plated
- Uses Standard ST-1 Tool



VBC
Voltage Blocking Coupler
- Blocks DC Voltage from Input to Output
- Female to Male F Fittings
- Solid Brass Body
- Bright Acid Tin Plating

PAL (IEC) Connectors & Adapters

- Quality Bright Acid Tin Plating • Solid Brass Construction
- Machined 3/8-32 UNEF Threads • Standard .324" Hex Crimp

Model	Description	
PFFA-F	PAL Female F Adapter Female	
PFFA-M	PAL Female F Adapter Male	
PMFA-F	PAL Male F Adapter Female	
PMFA-M	PAL Male F Adapter Male	
PF-PF	PAL Female to PAL Female Adapter	
PM-PM	PAL Male to PAL Male Adapter	
PF-PM	PAL Female to PAL Male Adapter	
P59-290M	PAL Male RG-59 Crimp On Connector	

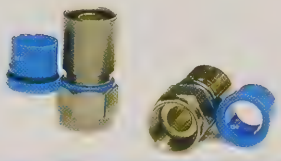
SNAP-N-SEAL® Thomas&Betts

F Series Male One-Piece Compression Connector

Catalog Number	Post I.D.	Sleeve I.D.	Sleeve Color	Tool†	Inner Pack	Outer Pack
"F" Series Male One-Piece Compression Connectors						
SNS1P59	.154	.253	Orange	1+2 or 3	50	1000
SNS1P59QS	.154	.275	Green	1+2 or 3	50	1000
SNS1P59HEC	.154	.290	White	1+2 or 3	50	1000
SNS1P6	.191	.290	Blue	1+2 or 3	50	1000
SNS1P6QS	.191	.315	Violet	1+2 or 3	50	1000

†Tool: **1** = CST596 or CST596711 **2**

F Male RG59/6 Compression Connector



Catalog Number	Fig.	Post I.D.	Sleeve I.D.	Sleeve Color	Tool†	Dim A	Inner Pack	Outer Pack
SNS59	C	.154	.253	Orange	1 or 2+3	-	50	1000
SNS59NS	B+C	.154	.253	Orange	1 or 2+3	-	50	1000
SNS59QS	C	.154	.275	Green	1 or 2+3	-	50	1000
SNS59QSNS	B+C	.154	.275	Green	1 or 2+3	-	50	1000
SNS59HEC	C	.154	.290	White	1 or 2+3	-	50	1000
SNS6	C	.191	.290	Blue	1 or 2+3	-	50	1000
SNS6NS	B+C	.191	.290	Blue	1 or 2+3	-	50	1000
SNS6QS	C	.191	.315	Violet	1 or 2+3	-	50	1000
SNS6QSNS	B+C	.191	.315	Violet	1 or 2+3	-	50	1000
SNS6PLA	C	.191	.253	Orange	1 or 2+3	-	50	1000

†Tool: 1 = IT1000, 2 = CST596 or CST596711, 3 = SNSUTL

F Male RG7/11 Compression Connector

Catalog Number	Fig.	Post I.D.	Sleeve I.D.	Sleeve Color	Tool†	Dim A	Inner Pack	Outer Pack
SNS7B	C	.238	.340	Black	1+2	-	36	288
SNS7BNS	B+C	.238	.340	Black	1+2	-	36	288
SNS7BQ	C	.238	.355	Black	1+2	-	36	288
SNS7BQNS	B+C	.238	.355	Black	1+2	-	36	288
SNS11AS	C	.295	.415	Black	1+2	-	36	432
SNS11ASNS	B+C	.295	.415	Black	1+2	-	36	432

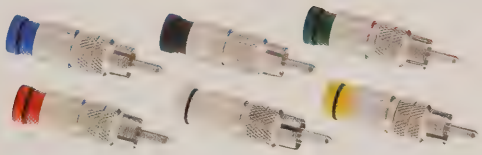
† Tool: 1 = CST596711, 2 = L3011B

Ultimate F RG6 Compression Connecto

Catalog Number	Post I.D.	Sleeve I.D.	Sleeve Color	Tool†	Inner Pack	Outer Pack
"F" Series Compression Connector						
SNS1P6U	.191	.293	Red	1+2 or 3	50	1000

†Tool: **1** = CST596 or CST596711 **2** = SNSUTL **3** = IT1000

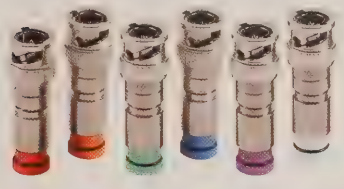
Thomas&Betts SNAP-N-SEAL®



RCA Male RG6 Compression Connector

Catalog Number	Sleeve Color	Tool†	Inner Pack	Outer Pack
RCA-Type Male Compression Connectors				
SNS1P6RMBL	Blue	1+2	36	432
SNS1P6RMY	Yellow	1+2	36	432
SNS1P6RMW	White	1+2	36	432
SNS1P6RMR	Red	1+2	36	432
SNS1P6RMG	Green	1+2	36	432
SNS1P6RMBK	Black	1+2	36	432

†Tool: **1** = CST596 or CST596711 **2** = SNSUTL



One-Piece BNC RG6 Compression Connector

Catalog #	Cable Types	Center Cond Dia Range	Post I.D.	Sleeve I.D.	Sleeve Color	Tool†	Inner Pack	Outer Pack
BNC Compression Connectors								
SNS1P59BNC	RG59 Belden 1505A Serial Digital Video Cable Belden 9167 Broadband Headend Cable Belden 9275 Belden 8241	.022 to .036	.154	.253	Orange	1+2	10	50
SNS1P59QSBNC	RG59QS	.022 to .042	.154	.275	Green	1+2	10	50
SNS1P6BNC	RG6	.032 to .040	.191	.290	Blue	1+2	10	50
SNS1P6QSBNC	RG6QS	.032 to .040	.191	.315	Violet	1+2	10	50
SNS1P6UBNC	Fits most RG6 and RG6QS coaxial cables	.032 to .040	.191	.293	Red	1+2	10	50
SNS1P59HECBNC	Commscope F59 HEC-2 Times Fiber 02240V Times Fiber 02241V Commscope S59 HEC	.022 to .036	.154	.290	White	1+2	10	50

†TOOL: **1** = SNSUTL, **2** = CST596711 OR CST596

BNC, RCA & F Male Compression Connectors for HDTV & Precision Video Cable

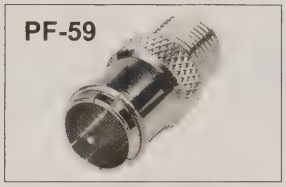
Catalog Number	Connector Type	Sleeve Color	Install Tool	Cable Preparation Tool	Inner Pack	Outer Pack
Snap-N-Seal® BNC, RCA & F Male Compression Connectors for HDTV and Precision Video Cable						
SNSBNCMB	BNC	Black	SNSUTL	1, 2 or 3	50	500
SNSRMB	RCA	Black	SNSUTL	1, 2 or 3	50	500
SNSFMB	F Male	Black	SNSUTL	1, 2 or 3	50	500
SNSBNCMTQ	BNC	White	SNSUTL	1, 2 or 3	50	500
SNSRMTQ	RCA	White	SNSUTL	1, 2 or 3	50	500
SNSFMTQ	F Male	White	SNSUTL	1, 2 or 3	50	500

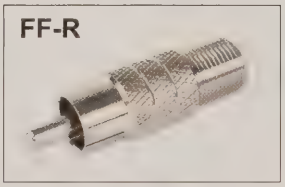
1 Tool: **1**=CSTMV596 **2**=CST596711MV **3**=CST596596MV

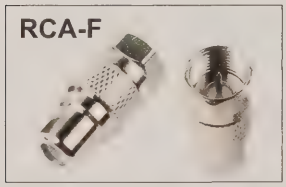
Toner

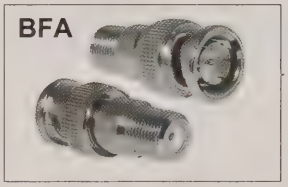
F & BNC Adapter Kit

With the F & BNC adapter kit, you will have a supply of the most commonly used adapters and inteseries connectors.









Ideal for:

Tech Benches, Service Trucks, Installers, Integrators, Trade Shows, Presentation Kits, Engineering & Test Labs

The F & BNC Adapter Kit contains a selection of 10 of each of the following adapters:

- F-81 Female F Type Splice Connector
- F-71 Male F Type Splice Connector
- F-59T F Male Port Terminator
- PF-59 Push-On F Adapter
- F-90 Right Angle F Female to F Male Adapter
- FF-R F Female to RCA Male Adapter
- RCA-F RCA Female to F Male Adapter
- BFA BNC Male to F Female Adapter
- BNF BNC Female to F Male Adapter
- BNC-81 BNC Female Splice

Toner FAM Series 1 GHz Attenuator Pads

Available in
1, 2, 3, 6, 8, 10,
12, 16, & 20 dB

FEATURES

- Tin/Nickel Plated Solid Brass
- 100 dB RFI Minimum
- Female to Male Fittings
- 22 Gauge Steel Center Pin
- 9 Different Values

FREQUENCY RANGE: 5-1000 MHz
IMPEDANCE: 75 ohms IN and OUT
ACCURACY: 6% or ± .5 dB (whichever is less)

MODEL	FAM-1	FAM-2	FAM-3	FAM-6	FAM-8	FAM-10	FAM-12	FAM-16	FAM-20
ATTENUATION (dB)									
5-600 MHz	0.9	2.2	2.7	5.6	7.5	9.6	11.5	15.8	19.4
600-750 MHz	1.0	2.1	3.4	6.3	8.2	10.6	12.5	16.5	19.8
750-900 MHz	1.1	2.2	3.4	6.3	7.8	10.6	12.5	16.5	19.3
900-1000 MHz	1.1	2.3	2.5	5.5	7.4	10.3	11.7	15.7	18.8
RETURN LOSS									
(dB) minimum									
5-600 MHz	24	23	23	26	26	22	22	26	20
600-750 MHz	22	21	21	24	22	21	21	22	19
750-900 MHz	18	18	20	22	20	20	20	20	18
900-1000 MHz	18	18	18	18	18	18	18	18	17

FAM Kit 1 GHz FAM Series Attenuator Pads

The FAM Kit is a selection of 10 each of the Toner FAM Series "F" type in line attenuators in the following values: 1, 2, 3, 6, 8, 10, 12, 16 & 20 dB.

Available in
3, 6, 8, 10 dB

POWER PASSING: 30 VDC @ 1200 mA
FREQUENCY RANGE: 5-2500 MHz
IMPEDANCE: 75 ohms
ACCURACY: ± 0.8 Db

MODEL	SFAM-3	SFAM-6	SFAM-8	SFAM-10
ATTENUATION (dB)				
5-600 MHz	3.0	6.0	8.0	10.0
600-1000 MHz	3.0	6.0	8.0	10.0
1000-1600 MHz	2.7	5.8	7.5	9.5
1600-2050 MHz	2.5	6.0	7.5	9.5
2050-2500 MHz	2.5	6.1	7.3	9.3
RETURN LOSS (dB) minimum				
5-600 MHz	16	18	18	18
600-1000 MHz	13	14	13	13
1000-1600 MHz	10	11	11	11
1600-2050 MHz	9	10	10	10
2050-2500 MHz	7	7	7	7

Jumper Cable / Fly Leads

RG6 Connectorized Jumper Cables

Toner Cable offers a broad range of coax cable jumpers cut to length with compression type connectors installed on each end.

Cable Options:

- RG6 60% Braid, Black or White Jacket
- RG6 Quadshield, Black or White Jacket
- RG59 Headend Cable (2240V), in Black, White, Blue, Green, Yellow or Purple
- Mini RG59 Headend Cable

Connector Options:

- F Compression
- BNC Compression
- RCA Compression

MODEL	DESCRIPTION	LENGTH	COLOR
J12-6B	RG6 60% Braid, Compression "F" Connector	12 inch	Black
J12-6QB	RG6 Quadshield, Compression "F" Connector	12 inch	Black
J18-6B	RG6 60% Braid, Compression "F" Connector	18 inch	Black
J18-HEC-G	RG59 Headend Cable, Compression "F" Connector	12 inch	Green
J24-6B	RG6 60% Braid, Compression "F" Connector	24 inch	Black
J24-HEC-G	RG59 Headend Cable, Compression "F" Connector	24 inch	Green
J24-HEC-W	RG59 Headend Cable, Compression "F" Connector	24 inch	White
J36-6B	RG6 60% Braid, Compression "F" Connector	36 inch	Black
J36-6QB	RG6 Quadshield, Compression "F" Connector	36 inch	Black
J36-HEC-B	RG59 Headend Cable, Compression "F" Connector	36 inch	Black
J48-6B	RG6 60% Braid, Compression "F" Connector	48 inch	Black
J60-6B	RG6 60% Braid, Compression "F" Connector	60 inch	Black
J72-6B	RG6 60% Braid, Compression "F" Connector	72 inch	Black
J72-6QB	RG6 Quadshield, Compression "F" Connector	72 inch	Black
J96-6B	RG6 60% Braid, Compression "F" Connector	96 inch	Black
J120-6B	RG6 60% Braid, Compression "F" Connector	120 inch	Black
J144-6B	RG6 60% Braid, Compression "F" Connector	144 inch	Black

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Custom Audio/Video Cable Assemblies

AUDIO / VIDEO CABLES

RG-59 Video Cable with Molded F Male to Molded RCA Male, and 22 Gauge Audio Cable with Molded RCA Connectors Both Ends in a Siamese Jacket

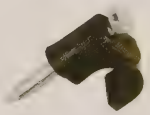
MODEL	DESCRIPTION	LENGTH
2R-59/22-RF-2	Duplex audio RCA to RCA and Video RCA to F cable	2 foot
2R-59/22-RF-3	Duplex audio RCA to RCA and Video RCA to F cable	3 foot
2R-59/22-RF-4	Duplex audio RCA to RCA and Video RCA to F cable	4 foot
2R-59/22-RF-5	Duplex audio RCA to RCA and Video RCA to F cable	5 foot
2R-59/22-RF-6	Duplex audio RCA to RCA and Video RCA to F cable	6 foot
2R-59/22-RF-12	Duplex audio RCA to RCA and Video RCA to F cable	12 foot
2R-59/22-RF-18	Duplex audio RCA to RCA and Video RCA to F cable	18 foot

Cable Clips CC Series Cable Clips

Part #	Description	Application
CC-6B	Black 6 mm Cable Clip	RG-59
CC-6I	White 6 mm Cable Clip	RG-59
CC-7B	Black 7 mm Cable Clip	RG-6
CC-7I	White 7 mm Cable Clip	RG-6

CC-6I

CC-7I

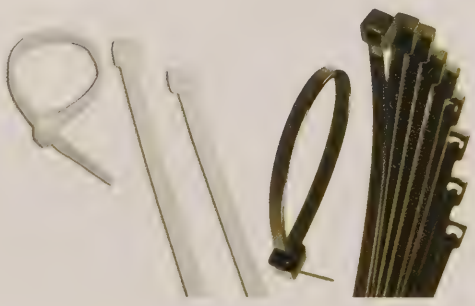


CC-6B

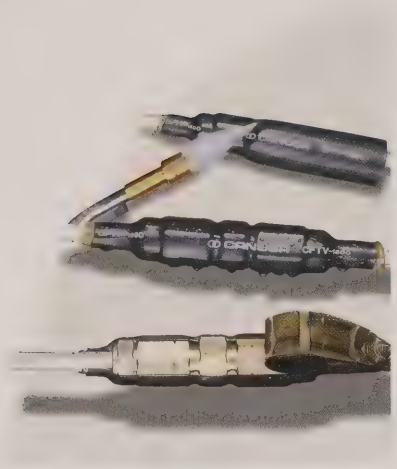
CC-7B

TWT Series Wire Ties

PART #	DESCRIPTION	LENGTH		TENSILE STRENGTH		MAXIMUM BUNDLE DIAMETER	
		INCH	MM	LBS.	KGS.	INCH	MM
TWT-45B	Wire Tie Black	4 1/2	120	18	8	1 3/16	30
TWT-45W	Wire Tie White	4 1/2	120	18	8	1 3/16	30
TWT-55B	Wire Tie Black	5 1/2	142	40	18	1 3/8	35
TWT-55W	Wire Tie White	5 1/2	142	40	18	1 3/8	35
TWT-75B	Wire Tie Black	7 1/2	190	50	22	2	52
TWT-75W	Wire Tie White	7 1/2	190	50	22	2	52
TWT-100B	Wire Tie Black	10	250	50	22	3	74
TWT-100W	Wire Tie White	10	250	50	22	3	74
TWT-145B	Wire Tie Black	14	368	50	22	4	102
TWT-145W	Wire Tie White	14	368	50	22	4	102
TWT-40W	Write-On Tie White	4 1/2	110	18	8	1	25
TWT-80W	Write-On Tie White	8	200	50	22	2	50



CANUSA
A Shawcor Company



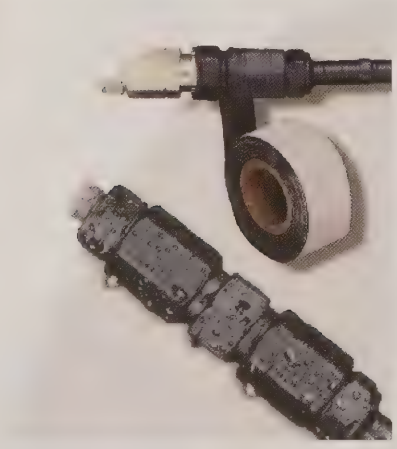
CFTV Heat Shrink Tubing

Features and Benefits

- Craft friendly installation
- Exceptional split resistance
- CFTV adhesive retains bond providing long term protection
- Selective strippability to meet CATV industry specifications
- Minimal heat required to produce error free installation without splitting
- Thermochromatic lines change colour to signal waterproof seal
- Shrinks and seals in half the time of alternative products
- Shrink ratio: 3:1
- Continuous operating temperature: -55°C to 110°C

Dimensions

Order Number	Expanded Internal Diameter (min.) D		Recovered Internal Diameter (max.) d		Wall Thickness (nom.) W		Application Range for General Use		Lengths	
	mm	in	mm	in	mm	in	mm	in	m	in
0400	10.2	0.40	3.8	0.15	2	0.08	4.5 - 8.5	.18 - .34	1.2	48
0750	19.0	0.75	5.6	0.22	2	0.08	6.0 - 16.5	.24 - .65	1.2	48
1100	27.9	1.10	10.2	0.40	2	0.08	11.5 - 25.0	.45 - 1.0	1.2	48
1300	33.0	1.30	10.2	0.40	2	0.08	11.5 - 30.0	.45 - 1.2	1.2	48
1500	38.1	1.50	12.7	0.50	2	0.08	14.0 - 35.0	.55 - 1.4	1.2	48
1700	43.2	1.70	12.7	0.50	2	0.08	14.0 - 40.0	.55 - 1.6	1.2	48
2050	52.1	2.05	19.0	0.75	2	0.08	21.0 - 45.0	.82 - 1.8	1.2	48
2750	69.8	2.75	25.4	1.00	2	0.08	30.0 - 63.0	1.2 - 2.5	1.2	48



CTB Self Fusing Tape

Features and Benefits

- Provides protection where heat/flame is prohibited
- Covers any shape including high transition areas and elbows
- Clean strippable
- Layers fuse together to form a boot that provides complete environmental protection and insulation
- UV and ozone resistant
- Proven long term protection
- Continuous operating temperature: -40°C to 90°C

Dimensions

Order Number	Width		Thickness		Roll Length	
	mm	in	mm	in	m	ft
CTB-15	38.1	1.5	0.76	0.03	4.57	15

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XG Series

1 GHz Digital Splitters

- Digital Ready
- Low Intermod
- Meets or Exceeds SCTE
- Greater than 120 dB RFI
- PCB for Consistent Performance
- Solder Back Design
- Round F Connector, Center Conductor Contact

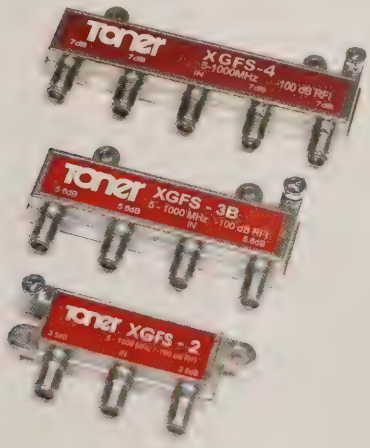
XGHS Series Horizontal Splitter

Available in 2M, 2, 3, 3B & 4

XGFS Series

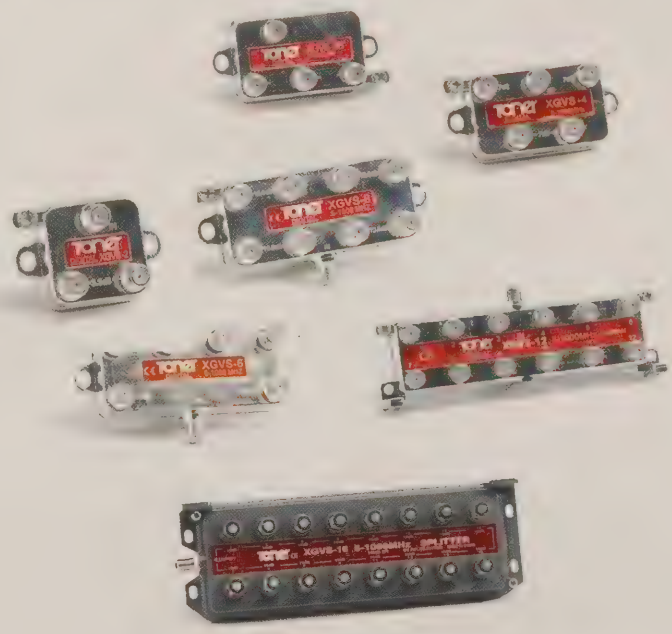
Topless Splitter

Available in 2, 3B & 4



XGVS Series Vertical Splitter

Available in 2, 3B, 4, 6, 8, 12 & 16



Toner Cable Equipment, Inc. 800-523-5947

• Phone 215-675-2053 • Fax: 215-675-7543 • info@tonercable.com • www.tonercable.com

DCWRG & DCRG Series

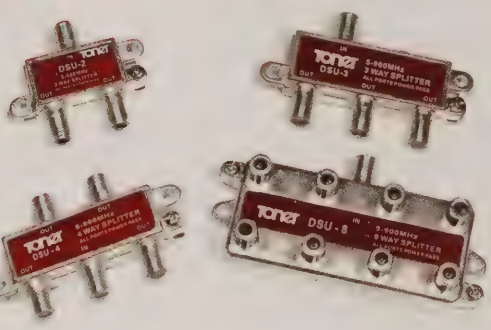
1 GHz Directional Coupler Taps

DCWRG-*
Right Angle (Wall Plate Type)

DCRG-*
Horizontal (T Type)

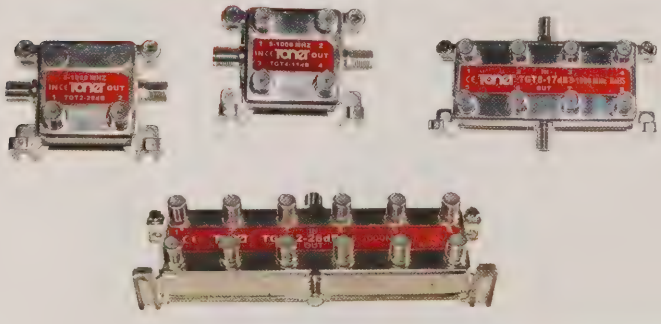
* Available in 3, 6, 9, 12, 16, 20, 24, 27 & 30 dB

DSU Series 5-900 MHz Splitters



DSU-2	2 Way DC Power Pass
DSU-2DC	2 Way DC Power Pass 1 Port
DSU-3	3 Way DC Power Pass
DSU-4	4 Way DC Power Pass
DSU-8	8 Way DC Power Pass

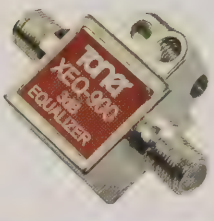
TGT Series 2, 4, 8 & 12 Port 1 GHz Taps



- 5 to 1000 MHz Bandwidth
- RFI greater than -100 dB
- 75Ω Impedance
- Port to Port Isolation 23 dB minimum
- Return Loss 20 dB typical, 18 dB minimum

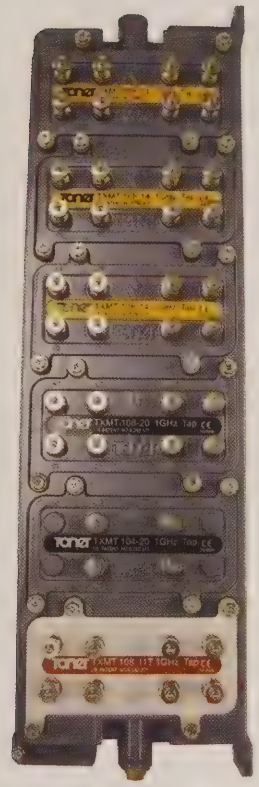
2 PORT
TGT2-4T, TGT2-8, TGT2-11, TGT2-14, TGT2-17, TGT2-20, TGT2-23, TGT2-26, TGT2-29, TGT2-32
4 PORT
TGT4-8T, TGT4-11, TGT4-14, TGT4-17, TGT4-20, TGT4-23, TGT4-26, TGT4-29, TGT4-32
8 PORT
TGT8-11T, TGT8-14, TGT8-17, TGT8-20, TGT8-23, TGT8-26, TGT8-29, TGT8-32
12 PORT
TGT12-17, TGT12-20, TGT12-23, TGT12-26, TGT12-29

XEQ-900 Series 1 GHz Miniature In-Line Equalizers



- 1" Square Diecast Housing
- Machined F Connectors
- Mounting Tab
- 100 dB RFI Shielding
- 5-1000 MHz Bandwidth
- 5 Values - 3, 6, 9, 12, and 16 dB
- 22 dB Return Loss
- 75 Ohm Impedance

the TOTAL TAP



Total Tap Features

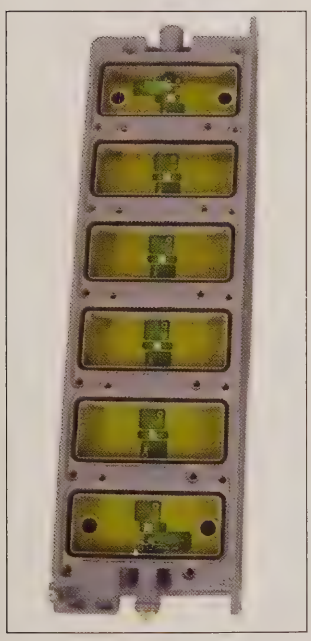
- Modular Assembly
- RF Bypass Circuitry
- Six Different Tap Locations
- Input From Both Ends
- Wide Spaced F Ports
- 2 to 48 Tap Ports
- Compact Design
- 2, 4, or 8 Port Tap Plates
- Equalization
- Ease of Installation
- -100dB RF Shielding
- Baked Acrylic Finish
- Stainless Steel Hardware
- 1 GHz Bandwidth
- Power Passing Housing
- US Patent # 6292371

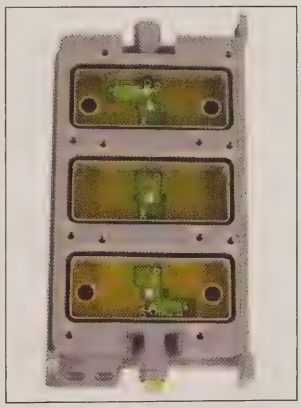
The Tap Assembly to Suit Your Needs

The Total Tap is the only fully modular, custom configurable tap designed to serve from 2 to 48 subscribers.

By using the Total Tap, *You* have the ability to configure the tap plates and values the way *You* need to, to service your customers based on *Your* system design. No other tap in the industry gives *You* this flexibility.

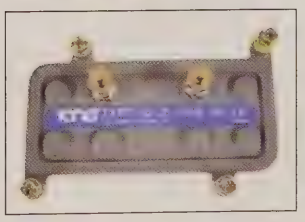
Tap Plate Model Numbers		
8 Port	**4 Port**	**2 Port**
TXMT108-26	TXMT104-26	TXMT102-26
TXMT108-23	TXMT104-23	TXMT102-23
TXMT108-20	TXMT104-20	TXMT102-20
TXMT108-17	TXMT104-17	TXMT102-17
TXMT108-14	TXMT104-14	TXMT102-14
TXMT108-11T	TXMT104-11	TXMT102-11
	TXMT104-8T	TXMT102-8
TXMT-B		TXMT102-4T

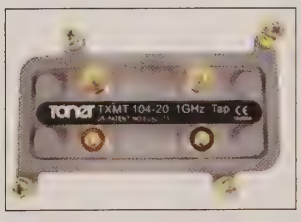




	TXMT-6H HOUSING	TXMT-3H HOUSING
Size	19 ½" X 5 ¾" X 1 7/16"	11" X 5 ¾" X 1 7/16"
	49.6 cm X 14.6 cm X 3.7 cm	27.8 cm X 14.6 cm X 3.7 cm
Weight	4.2 pounds, 1.9 KG	2.5 pounds, 1.1 KG
RFI	>100 dB	
Bandwidth	5 - 1000 MHz	
	Power Passing 60/90V, 4 amp	

NOTE: Terminating plates are painted white.





TST Series 1 GHz 2, 4 & 8 Port Multitaps

Tap Model Numbers		
8 Port	4 Port	2 Port
TST8-32	TST4-32	TST2-32
TST8-29	TST4-29	TST2-29
TST8-26	TST4-26	TST2-26
TST8-23	TST4-23	TST2-23
TST8-20	TST4-20	TST2-20
TST8-17	TST4-17	TST2-17
TST8-14	TST4-14	TST2-14
TST8-11T	TST4-11	TST2-11
	TST4-8T	TST2-8
		TST2-4T

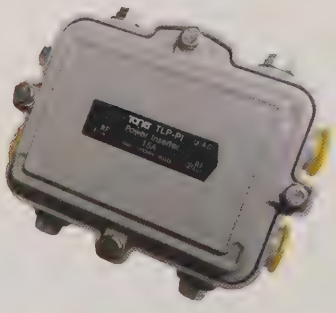
TLP Series 1 GHz Hardline Directional Couplers, Splitters, Power Inserters

TLP-DC Series

1 GHz Hardline Directional Couplers

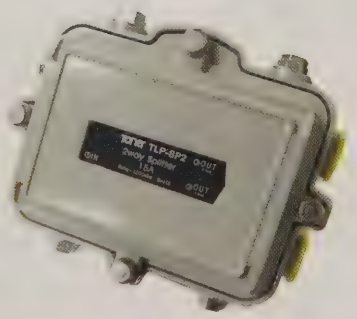
TLP-DC8 , 8 dB
TLP-DC12, 12 dB
TLP-DC16, 16 dB

- 5 MHz to 1 GHz bandwidth
- 15 Amp power passing
- 30, 60, 90 VAC power passing
- Stainless Steel hardware
- Aluminum diecast housings with machined (not cast) threads
- Epoxy finish for corrosion resistance
- -100dB RFI EMI/RF shielding
- Heat shrink lip on connector ports
- 75Ω Impedance
- 20 Amp fuse
- Meets current SCTE standards



TLP-PI Series

1 GHz Hardline Power Inserter



TLP-SP Series

1 GHz Hardline Splitters

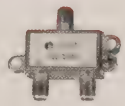
TLP-SP2, 2-Way
TLP-SP3, 3-Way
TLP-SP3B, 3-Way Balanced

Toner Cable Equipment, Inc. 800-523-5947
• Phone 215-675-2053 • Fax: 215-675-7543 • info@tonercable.com • www.tonercable.com

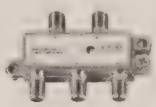
Blonder Tongue

SXRS & SCVS Series Indoor 5-1000 MHz Splitters

- Superior Performance to 1000 MHz
- 2, 3, 4, 6 (SCVS only), and 8 way models
- Die Cast Housing
- RFI Shielding 120 dB
- Built-In Ground Block


SXRS-2

SXRS-3

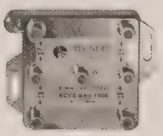

SXRS-4

SXRS-8

SCVS-2

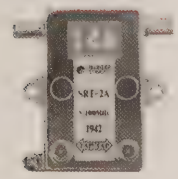
SCVS-3

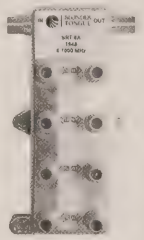
SCVS-4


SCVS-6

SCVS-8

SRT Series Indoor 5-1000 MHz Taps





- 1 GHz Bandwidth
- 2, 4, & 8 Port Models
- 120 dB RFI Shielding
- Diecast Housing
- Built-In Ground Block

SRT-2A Tap Values 4, 8, 11, 14, 17, 20, 23, 26, 29, 32
SRT-4A Tap Values 8, 11, 14, 17, 20, 23, 26, 29, 32, 35
SRT-8A Tap Values 11, 14, 17, 20, 23, 26, 29, 32, 35

DSV Series Sub-Band Diplexer

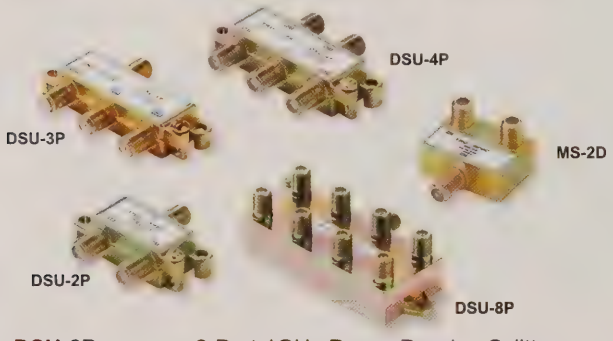
- Models Available in VHF Low/Highband, VHF/UHF and Sub/CATV
- Low Insertion Loss
- Superior Isolation
- Compact Housings

DSV 5-30, 50-1000 MHz
DSV-42 DC-42, 54-1000 MHz

TSB-G Series 1 GHz 130 dB
EMI Digital CATV Splitters

TSB-21G	2-Port Splitter 1GHz Soldered Back
TSB-31G	3-Port Splitter 1GHz Soldered Back
TSB-31G/B	3-Port Splitter Balanced 1GHz Soldered Back
TSB-41G	4-Port Splitter 1GHz Soldered Back
TSB-81G	8-Port Splitter 1GHz Soldered Back
TSB-21GDC	2-Port Splitter 1GHz DC-Passing 1-Port Soldered Back
TSB-31GDC	3-Port Splitter 1GHz DC-Passing 1-Port Soldered Back
TSB-41GDC	4-Port Splitter 1GHz DC-Passing 1-Port Soldered Back

DSU Series 1 GHz 80 dB EMI
MATV Power Passing Splitter



DSU-2P	2-Port 1GHz Power Passing Splitter
DSU-3P	3-Port 1GHz Power Passing Splitter
DSU-4P	4-Port 1GHz Power Passing Splitter
DSU-8P	8-Port 1GHz Power Passing Splitter
MS-2D	2-Port 1GHz Power Passing Splitter

PICO DIGITAL

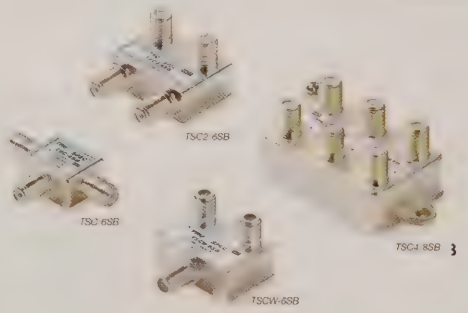
TSV Series 1 GHz 130 dB
EMI CATV Vertical Splitters

TSV-2SB	2-Port Vertical Port Splitter Soldered Back
TSV-3SB	3-Port Vertical Port Splitter Soldered Back
TSV-4SB	4-Port Vertical Port Splitter Soldered Back
TSV-6SB	6-Port Vertical Port Splitter Soldered Back
TSV-8SB	8-Port Vertical Port Splitter Soldered Back

WS3G Series 3 GHz Diode
Steered Digital Splitters

WS3G-2	2-Port Splitter 3GHz Diode Steered Digital Splitter
WS3G-3	3-Port Splitter 3GHz Diode Steered Digital Splitter
WS3G-4	4-Port Splitter 3GHz Diode Steered Digital Splitter

TSC Series
1 GHz 130 dB EMI Digital
Directional Coupler / Taps

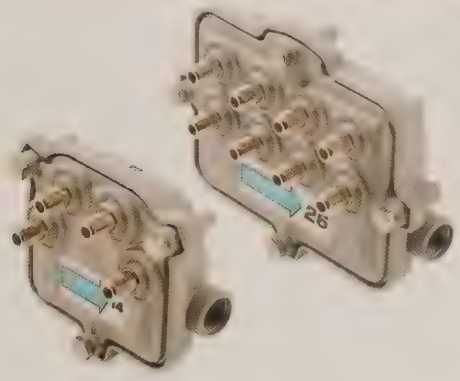


TSC-(values)SB	1-Port Directional Coupler (Values: 6, 9, 12, 16, 20, 24, 27, 30dB)
TSC2-(values)SB	2-Port Directional Coupler (Values: 6, 9, 12, 16, 20, 24, 27, 30dB)
TSC4-(values)SB	4-Port Directional Coupler (Values: 8T, 12, 16, 20, 24, 30dB)
TSCW-(values)SB	1 Wall Mount Directional Coupler (Values: 6, 9, 12, 16, 20, 24, 27, 30dB)

PICO DIGITAL™

TMP Series

1 GHz Hardline Digital Multitaps



TMP-M4-(values)	4-Port 1GHz Hardline Digital Multitaps (Values: 8T, 11, 14, 17, 20, 23, 26, 29, 32, 35dB)
TMP-M8-(values)	8-Port 1GHz Hardline Digital Multitaps (Values: 11T, 14, 17, 20, 23, 26, 29, 32, 35dB)

TMP-PI

1 GHz Hardline Digital Power Inserter

TMP-S Series

1 GHz Hardline Digital Splitters

TMP-S2	2-Port 1GHz Digital Splitters
TMP-S3	3-Port 1GHz Digital Splitters

TMP-C Series

1 GHz Hardline Digital Directional Couplers

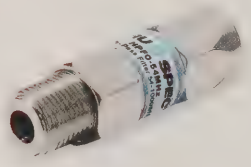
TMP-C8	1GHz Hardline Digital Directional Couplers
TMP-C12	1GHz Hardline Digital Directional Couplers
TMP-C16	1GHz Hardline Digital Directional Couplers

PICO DIGITAL™

TSEQ-2150 In-Line Slope Equalizer

- Separates and isolates sub-band (5~42MHz) from CATV/UHF/ VHF (54~1000MHz) signals, providing for clean insertion into modulators and data translators
- Filters and mixes sub-band and CATV/UHF/ VHF signals to single output, reducing reverse path ingress
- Used as amplifier sub-band bypass enabling cost-effective reverse path upgrade, converting unidirectional amplifiers to bi-directional
- Analog and digital signal compatible
- Prevents VHF/UHF ingress into return path channels
- Min rejection 50dB/Sub
- Sub-band power passive for remote powering applications
- Zinc diecast housing

HPF-54MHz 54 MHz High-Pass Filter



- Prevents TV interference from cable-modem output signals
- Blocks ingress into upstream low-frequency (5~40MHz) path
- Frequency range 1~1000MHz
- High sub-band rejection >-40dB
- High return loss
- Insertion loss <0.5dB
- Rugged weatherproof construction
- Nickel plated precision machined brass

TSDM-2150 TV-Satellite Diplexers

TSDM-2150	TV-Satellite Diplexer
TSDM	TV-Satellite Diplexer
TSDM-DN	TV-Satellite Diplexer

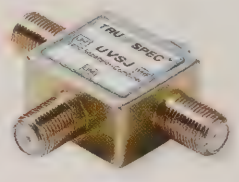
- Ideally suited for use with stacked satellite polarity systems and bi-directional CATV/SMATV systems that employ return modem and video signal
- Separates and isolates Sub-Band (5~48MHz), CATV/SMATV (54~1000MHz) and satellite (950~2300MHz) signals, providing for clean combining and separation of signals
- Filters and mixes three signal bands to single output, allowing two-way cable and satellite signals on single cable
- Prevents paging, cellular and ham radio signals from interference with satellite, CATV and cable modem signals
- Can be used to cost-effectively upgrade distribution systems with satellite and cable modem services by allowing continued use of existing amplifiers
- 550mA power passing satellite-port, enabling LNB powering

LPF-230 In-Line Low Pass Filters

LPF-230	5-230 MHz
LPF-450	5-450 MHz
LPF-700	5-700 MHz

- Removes channels for insertion of security or other locally originated channels
- Passes channels below cutoff frequency
- Blocks higher channels allowing clean insertion of channels
- Frequency range 5~230MHz (LPF-230), 5~450MHz (LPF-450), 5~550MHz (LPF-550), 5~700MHz (LPF-700)
- Pass-band insertion Loss <0.5dB
- Stop-band rejection >-50dB, SMD high stability
- High EMI shielded tube case
- Nickel plated precision brass threads
- Custom design available

UVSJ UHF-VHF Band Separator-Combiner



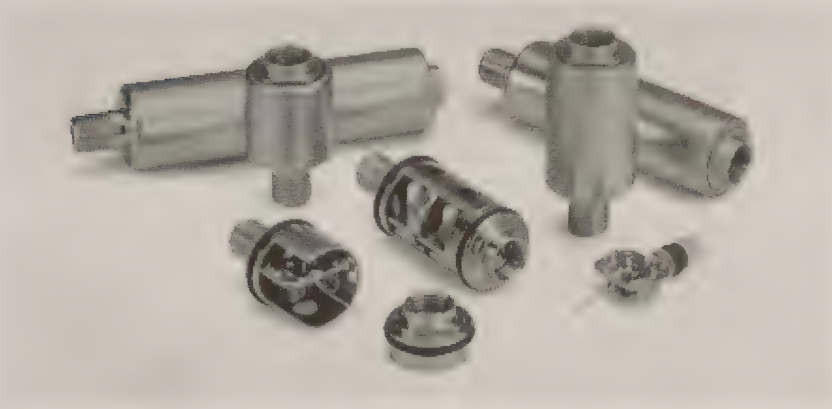
- Separates and isolates VHF (54~216MHz) from UHF high (470~809MHz) signals, providing for clean insertion into headend strip amplifier
- Filters and mixes VHF and UHF signals, allowing mixing of multiple antenna onto single cable
- Reduces harmonics and out of band interference for improved amplifier performance
- Low insertion loss 0.5dB max
- Impedance 75Ω
- VHF-Band DC power passive for remote preamplifier powering
- Machined F-connector threads
- Epoxy sealed back cover
- Yellow-chromate plated zinc diecast housing

SUB-CATV CATV Return Path Separator-Combiner

- Separates and isolates sub-band (5~42MHz) from CATV/UHF/ VHF (54~1000MHz) signals, providing for clean insertion into modulators and data translators
- Filters and mixes sub-band and CATV/UHF/ VHF signals to single output, reducing reverse path ingress
- Used as amplifier sub-band bypass enabling cost-effective reverse path upgrade, converting unidirectional amplifiers to bi-directional
- Analog and digital signal compatible
- Prevents VHF/UHF ingress into return path channels
- Min rejection 50dB/Sub
- Sub-band power passive for remote powering applications
- Zinc diecast housing

EAGLE COMTRONICS INC.

EAGLEelite™ SERIES
Notch Filters, Tier Traps, and Noise Suppression Filters



Pay Television Single Channel Notch Filters

EMN Negative Traps
EMD Positive Traps

Negative traps block the video signal from entering the subscriber's home. Positive traps decode a scrambled channel. Negative and positive traps are the world's most widely accepted method for pay television security.

Single Channel Notch Features

- Small size (1.965") for easier installation in small lockboxes and distribution panels
- Wide range of frequencies available with performance levels up to 1 GHz
- Very low adjacent channel insertion loss
- Special, patented circuits provide superior selectivity for narrow bandwidth
- Extraordinary environmental stability due to patented dome seal, patented double "D" outer shield, and technically superior dual O-ring seals
- Cost effective, economical channel security with Eagle reliability

Pay Television Multi Channel Tier Traps

8 Pole: 8MLP, 8MNF, 8MHP
10 Pole: 10MLP,10MNF, 10MHP

Multi-channel tier traps are becoming increasingly more popular to selectively control, block or access groups (tiers) of pay television channels. Traps are designed to meet a cable operator's specific requirements and are available in band reject (NF), lowpass (LP), and highpass (HP) styles.

Multi Channel Tier Trap Features

- Small size (2.965" for 8 pole traps, 3.465" for 10 pole traps) for easier installation in small lockboxes and distribution panels
- Wide range of frequencies available with performance levels up to 1 GHz
- Sharper band selectivity for reduced filter guardband, especially at higher frequencies (for many applications the filters can attenuate a pay tier without losing any channels in the guard band)
- Improved attenuation across wider reject bands permitting wider pay tier channel groupings
- 10M models offer lifeline combination of NF and LP filter style in one package

Return Band Noise Suppression Filters

EHP, EMHP Highpass Filters
EXSH Window Filters
EMSA Step Attenuators

Highpass Filters

Highpass filters offer a variety of cut-off frequencies for all frequency formats. The EHP surface mount is the smallest highpass filter in the industry (1.485"). EMHP filters are available for specialized applications.

EXSH Window Filters

Window filters are designed for return band noise suppression but provide a "window" for addressable converter pilot carriers.

EMSA Step Attenuators

Step attenuators are used to condition and balance return signals. They are available in a variety of attenuation steps for all frequency formats. Custom designs for unique system applications are also available.

Highpass, Window Filter, and Step Attenuator Features

- Small size (1.485" for EHP, 1.965" for EMHP) for easier installation in small lockboxes and distribution panels
- Wide range of frequencies available with performance levels up to 1 GHz

OTOT-1000 E 1 GHz 1310nm Optical Transmitter

Available enhanced RF bandwidth of 48-1,000MHz supports most analog and QAM digital broadcast transport applications. Wide range of 2mW to 31mW DFB laser options for Tx launch powers from 3dBm to 15dBm.

Rugged & Compact Fiber Optic Transmitter

CATV

Ordering Information

OTOT-1000E-3-XX	Optical Transmitter, 1310nm, +3dBm Optical Output
OTOT-1000E-6-XX	Optical Transmitter, 1310nm, +6dBm Optical Output
OTOT-1000E-8-XX	Optical Transmitter, 1310nm, +8dBm Optical Output
OTOT-1000E-9-XX	Optical Transmitter, 1310nm, +9dBm Optical Output
OTOT-1000E-10-XX	Optical Transmitter, 1310nm, +10dBm Optical Output
OTOT-1000E-12-XX	Optical Transmitter, 1310nm, +12dBm Optical Output
OTOT-1000E-13-XX	Optical Transmitter, 1310nm, +13dBm Optical Output
OTOT-1000E-14-XX	Optical Transmitter, 1310nm, +14dBm Optical Output
OTOT-1000E-15-XX	Optical Transmitter, 1310nm, +15dBm Optical Output

OPAT-14 Power Agile Fiber Optic Transmitter

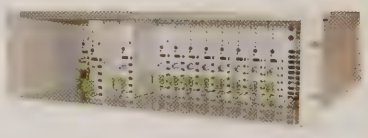
APPLICATIONS

- Replace Any Fiber Optic Transmitter to Supply Power Range of +3dBm to +14dBm (2-25mW)
- Can Be Adjusted To Accommodate Future Node Splits

LaserPlus 1 GHz Density Compact CATV Optical Transmisson System

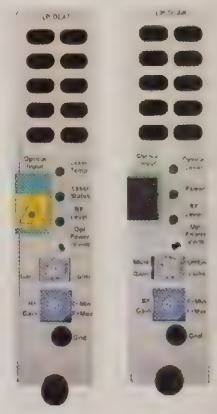
- Compact: Space-Efficient 3RU footprint means that up to 13 chassis can be installed in a standard 70" rack

LaserPlus System



LaserPlus LP-OLAT Advanced L-Band Transmitter

The Olson *LaserPlus* LP-OLAT Advanced LBand Transmitter offers a feature-rich, versatile system in a compact rack-mount package. The Advanced L-Band Transmitter has been engineered to meet today's high performance standards for LBand transport with an extreme bandwidth range that will also allow the system to handle the next generation of satellite signals. The Advanced L-Band system is ideal for a wide variety of communications applications, including L-Band satellite antenna remoting, trunking radio, telemetry tracking, and time and frequency reference distribution. The extended frequency range to 4GHz allows this system to accommodate additional transponders coinciding with common European satellite communication applications.



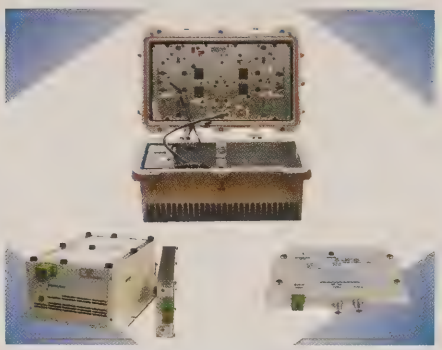
LaserPlus LP-OLAR Advanced L-Band Receiver

The Olson *LaserPlus* LP-OLAR Advanced LBand Receiver offers a feature-rich, versatile system in a compact rack-mount package. The Advanced L-Band Receiver has been engineered to meet today's high performance standards for L-Band transport with an extreme bandwidth range that will also allow the system to handle the next generation of satellite signals. The Advanced L-Band system is ideal for a wide variety of communications applications, including L-Band satellite antenna remoting, trunking radio, telemetry tracking, and time and frequency reference distribution. The extended frequency range to 4GHz allows this system to accommodate additional transponders coinciding with common European satellite communication applications.

OLSON TECHNOLOGY INC.

Excellent & Innovative Products Since 1985

CATV Transport



CATV Receivers & Nodes

L-Band Transport

Olson Technology, Inc fiber optic communications products and system designs are used in many applications around the world.

- Major USA Television Networks
- US Government & Military Base Secure RF Fiber Communications
- University Research Laboratories
- College Dormitory CATV Systems
- Sports Arenas and Stadiums
- Commercial Airport Terminals
- Hotels and Hospital CATV
- Satellite and Data Fiber Links for Cruise Ships & Oil Rigs at Sea
- Satellite Uplinks and Downlinks
- CATV Fiber System Updates for Greater Digital Data Bandwidth
- Secure Municipal Courts Video

Toner Cable Equipment, Inc. & Olson Technology, Inc. worked together to provide the capitol city CATV network to towns and villages of a Central American country. Toner and Olson staff members provide personal training for our customers with fiber optic technology products. We supply all of the communications requirements for CATV & Satellite RF distribution networks.

Let us design your fiber optic system for you.
Call your Toner Sales Representative Today!

emcore
empower with light™

- Transmits Up to 110 Channels Over One Singlemode Fiber at 1310 nm
- VSB/AM Transmission Ensures Compatibility with Standard CATV Modulators, Processors, etc
- Transmitter Includes a 7-Segment Display and Other Indicator LED's that Allow Critical System Parameters to be Accurately Monitored
- Intergral -20 dB RF Test Port Simplifies Installation, Commissioning, and Troubleshooting
- Key Lock Power Switch Prevents Accidental Power-Down
- Multiple Laser Output Power Options Provide Complete System Design Flexibility
- Excellent for Medium to Large Campus Video Distribrution Systems
- +13 dBm Optical Output Power Supports Links beyond 20 km

2804 110 Channel CATV Transmitter

The 2804 110 Channel CATV PDS transmitter is part of a robust system for transporting up to 110 Channels of VSB/AM modulated signals over a singlemode optical fiber. The system is also suitable for transporting 80 CATV channels along with 30 digital QAM channels in the upper frequency range. The 2804 provides 40-870 MHz of usable bandwidth for video signals stacked at 6 MHz intervals. A low loss singlemode fiber allows full channel loading to beyond 20 km while maintaining a good carrier-to-noise ratio. A key power lock ensures the transmitter cannot be accidentally turned off and a blue 7-segment display allows the user to monitor a number of system parameters. A -20 dB RF test port on the front panel provides a convenient means for installing, commissioning, and troubleshooting the transmitter. The 2804 may be used with the 2807 mini-node receiver for use in return path and multiple splitter applications or with the 2808 receiver for basic 110 channel CATV transmission. In all cases, the link provides excellent performance for many demanding applications such as broadband LANs, distance learning, and multiple data services.

2806 77 Channel

CATV Limited Distance Solution (LDS)

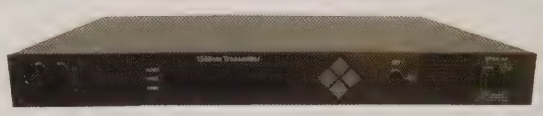
The 2806 77 Channel CATV LDS transmitter is part of a low cost system for transporting up to 77 Channels of VSB/AM modulated signals over a singlemode optical fiber. The system provides 40-870 MHz of usable bandwidth for video signals stacked at 6 MHz intervals. A low loss singlemode fiber allows full channel loading to beyond 10 km while maintaining a good carrier-to-noise ratio. Because of its relatively small size, the 2806 can be mounted almost anywhere and it is a true plug-and-play system when used with 2808 or 2809 receivers. Together, this link provides excellent performance for many demanding applications such as broadband LANs, distance learning, and multiple data services.

- Transmits Up to 77 Channels Over One Singlemode Fiber
- VSB/AM Transmission Ensures Compatibility with Standard CATV Modulators, Processors, etc
- Built-In, Universal AC Power Supply Frees System User from Bulky Wall-Mount AC Adapters
- Excellent for Low Budget Structured In-Building Premise Wiring Video Applications
- Designed for Distances up to 10 km, Offers an Optical Output Power of +4.5 dBm
- Convenient Compact (3" x 8.5") Enclosure is One of the Smallest in the CATV Industry

Fiber Optic Solutions

MEDALLION 6000 Series 1550 nm Externally Modulated Transmitter

The L-Type/D-Type/S-Type/H-Type/F-Type/N-Type Medallion 6000 series product line is a family of state-of-the-art high performance 1550 nm externally modulated CATV fiber optic transmitters optimized for varying network applications. Packaged in a convenient 1RU housing, this line of optical transmitters couples high optical output powers, up to 11.0 dBm, with low optical linewidth resulting in unmatched performance. The optical modulator, combined with proprietary predistortion circuitry, provides superior CTB and CSO performance with SBS suppression levels of greater than 20 dBm. Advanced features such as built in field adjustable SBS control and electronic dispersion compensation allows these transmitters to be quickly optimized in the field for any link or application without the need to procure specifically tuned transmitters. This affords the system designer a level of flexibility previously unknown in the CATV market place.



APPLICATIONS

- High Performance Supertrunking Links
- High Power Distribution Networks
- Redundant Ring Architectures
- FTTx Networks
- RFOG Applications
- SAT-IF Transport
- DWDM Node Splitting

FIBT-10-1550 Fiber Optic 1550 nm Transmitter

- 48-870 MHz Bandwidth
- 1550 nm, Single Mode With SC/APC Connector
- 10 dBm Optical Output Power
- LED's for Quick Assessment of RF Input, Laser and Cooler Status
- Status/Alarm Jack on Rear Panel for Monitoring 5 Key Parameters

FIBT / MIBT Fiber Optic 1310 nm Transmitter

- 45-860 MHz Bandwidth
- 1310nm, Single Mode With FC/APC Connector Standard, (SC/APC Optional)
- Available in 5 Optical Output Powers (6,8,10,12 & 14 dBm) To Handle A Variety of Applications
- LED's for Quick Assessment of RF Input, Laser and Cooler Status
- Status/Alarm Jack on Rear Panel for Monitoring 5 Key Parameters

FIBT

MIBT

OTOT-EM55X

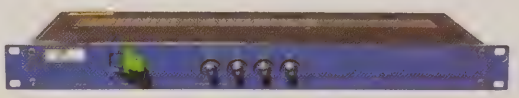
Low-Cost External Modulation 1550nm CATV Optical Transmitter

The low-cost Olson Model OTOT-EM55X 1550nm Externally Modulated CATV Optical Transmitter uses a low-noise, narrow bandwidth, CW laser as a light source. The external modulator amplitude modulates the light, allowing the transmitter to eliminate the chirp associated with 1550nm direct modulation lasers. Ideal for FTTx networks (Up to 60km typical) and other multipoint distribution networks. The OTOT-EM55X provides wide bandwidth from 47MHz to 862MHz. It also offers superb stability over the full operating temperature range from 0°C to +50°C.

OT-1000-HH 1 GHz SuperMod 1550nm Optical Transmitter

The Olson Technology, Inc. LaserLite Model OT-1000-HH 1GHz SuperMod (Direct Mod) 1550nm Optical Transmitter is a cost effective, high quality, full-featured 1RU 19" optical transmitter. Designed for optical transport of forward path analog, return path and digital QAM broadcast signals, the OT-1000-HH transmitter is ideal for CATV Hybrid Fiber Coax (HFC) applications and Fiber-to-the-Premise (FTTP) deployments using Active/Passive Optical Network (AON/PON) architectures.

Electrical to optical conversion of multichannel CATV signals.



OTPN-400C

PremiseNode Optical Node Receivers

OTPN-400C PremiseNode Receive Only Optical Node

Entry level member of the Olson Technology's PremiseNode family offers high sensitivity, no frills, and low cost.

OTOR-300 Rackmount Return

Optical Receiver Standalone or 1RU

- Ultra Wide 5-300 MHz Passband supports traditional 5-42/65MHz Return or newer Return Multiplexer topologies

OTPN-800C-H/L Customer Premises HFC/PON Optical Node/Receiver with Optional Return Transmitter

The Olson Technology, Inc. OTPN-800C-H/L PremiseNode is a compact, cost-effective, full-featured indoor CATV node designed using the very latest optical receiver technology to reliably deliver a full slate of multiplexed video, high speed data and telephony services in an HFC or PON broadband CATV environment.

The unit is ideally suited for direct fiber transmission of CATV RF signals in FTTH, FTTX, MDU, industrial, corporate, government, educational, I-Net or traditional HFC applications where a high performance, compact indoor node is required. The unit is constructed with high quality components to enable it to meet or exceed its performance specifications over a wide temperature range in an uncontrolled environment, but it does require protection from the elements. It is configured for desktop, shelf or wall-mounting.

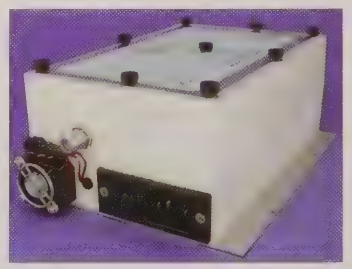
OTPN-800C-H/L

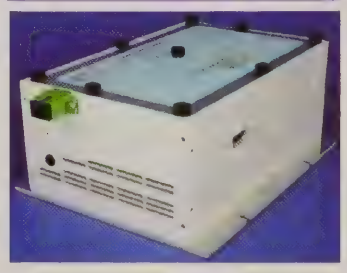
PremiseNode Optical Node Receivers

OTPN-2000C

High Output FTTP Premise Node Optical Receiver with Optional Return Transmitter

- Flagship Model of the OT "Premise Node" family: High-Output, Premium-Performance & Full-Featured
- Stable, High RF Output Level (+46 dBmV) over Wide (+3 to -6dBm @ 1310/1550nm) Optical Input range
- Superior Low-Noise Performance (CNR > 49 dB @ -6 dBm Optical Input) & CSO/CTB Specs (> 64/69dB)
- Designed to Directly Feed 64+ television outlets in FTTB applications (more with line extender amplifiers)
- Inter-Stage Slope and RF Input/Output controls via internal Plug-in EQ's and Plug-In attenuator Pads
- Calibrated external Optical Input Power Meter (1V/mW) and internal RF test points (@ -20dB)
- Full CATV Forward Path Bandwidth (Analog and QAM Digital) 54-1,000MHz (±1.0dB)
- DFB & CWDM Return Laser Transmitter options (field-installable) for two-way DOCSIS operation
- Choice of Return/Forward Frequency Diplexer Splits (42/54MHz, 65/85MHz or 30/45MHz)
- Built-in Universal 90-240 VAC (@ 50/60 Hz) CE-approved Power Supply for local powering
- > 6kV surge tolerant RF output and SMT construction for consistency, reliability & performance
- Compact (3"x 5"x 8"), Lightweight, Rugged cast aluminum housing for easy installation





TIN40-1000 Indoor Optical Node

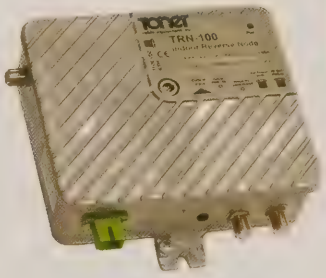
- Full forward bandwidth up to 1 GHz
- High RF output range; 40 dBmV stable within wide optical input range (-6 to 2 dBm) with AGC feature
- GaAs E-pHEMT push-pull technology for high and stable output level with very low power consumption
- Optical input test point
- Surge protection (6kV) at RF output
- SCTE compliant F type connectors
- Diecast aluminum housing for excellent heat dissipation and RFI shielding
- Three colored LED indicator for optical input level
- External powering (11-35 Vdc) or remote powering over coax line via power inserter

TIN40R-1000 2-Way Indoor Optical Node

- Full forward bandwidth up to 1 GHz
- 5-42 MHz reverse, 2 Mw DFB laser
- 1550 nm reverse optical wavelength
- High RF output range; 40 dBmV stable within wide optical input range (-8 to +4 dBm) with AGC feature
- GaAs E-pHEMT push-pull technology for high and stable output level with very low power consumption
- Surge protection (6kV) at RF output
- SCTE compliant F type connectors
- Diecast aluminum housing for excellent heat dissipation and RFI shielding
- Optical input test point
- LED display of optical levels
- External powering (11-35 Vdc) or remote powering over coax line via power inserter

TRN-100 1310 / 1550 nm Reverse Path Node Optical Receiver

- Receive only indoor optical node for CATV applications
- Operational bandwidth from 5 MHz - 100 MHz
- Wide optical input range -15 to +2 dBm
- High RF output range; 40 dBmV stable within wide optical input range (-6 to 2 dBm) with AGC feature
- GaAs E-pHEMT push-pull technology for high and stable output level with very low power consumption
- Optical input test point
- Three colored LED indicator for optical input level
- External powering (11-35 VDC) or remote powering over coax line via power inserter
- Surge protection (6 kV) at RF output



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2807 Mini-Node CATV Optial Receiver

The 2807 Mini-Node CATV Optical Receiver, working with either the 2804 PDS or 2805 PNS transmitter, provides CATV distribution head end operators with an extensive array of features that offer a low-cost solution to increase system performance. The receiver provides an RF output of +38 dBmV over the entire optical input range allowing multiple RF splits without the use of an external RF amplifier. Additionally, the mini-node's ability to operate over a wide optical input range of -8 to +4.5 dBm allows for a variety of system designs without degrading performance. An LCD display enables the operator to accurately set the tilt and RF output levels to ensure quality of service. The 2807 mini-node can be ordered either with or without the return path transmitter module. A separate return path module may also be ordered, allowing for a quick factory upgrade or laser replacement. The return path module utilizes either an FP or DFB laser. The modular design of the 2807 offers the flexibility and performance demanded by today's broadband professional.

- Wide Bandwidth of 50 to 860 MHz Accommodates Up to 110 Channels on All Models
- Provides Excellent Picture Quality with a CNR up to 54.5 dB, CSO of -63 dBc and CTB of -66 dBc
- Capable of Responding to Changing System Requirements with Field-Installable Return Path Modules
- Digitally Adjustable Built-In RF Attenuator and Equalizer Settings Allow for Accurate Adjustment of Parameters Via an LCD Screen
- Provides up to +38 dBmV RF Output Power Over the Entire Optical Input Range, Allowing a Greater Number of Drops or Splits
- Wide Optical Input Range of -8 dBm to +4.5 dBm Permits the Use of a Lower Power Transmitter, Reducing System Cost

2808 110 Channel CATV Optical Receiver

The 2808 110 Channel VSB/AM Optical Receiver provides CATV distribution headend operators with an extensive array of features that offer a low-cost solution to increase system performance. The receiver provides an RF output of +28 dBmV allowing multiple RF splits without the use of an external RF amplifier. The 2808 is equipped with a manual gain control that allows the user to adjust the RF output level for optimum performance. Additionally, the receiver's ability to operate over a wide optical input range of -8 to +4.5 dBm allows for a variety of system designs without degrading performance. The 2808 can transport up to 110 CATV channels using the entire high-frequency bandwidth, or alternatively, it can transport up to 80 channels of standard analog CATV signals while utilizing the remaining high-frequency bandwidth to transport 30 digital QAM channels. The receiver includes a universal AC power supply, freeing the user from a bulky wall-mount AC adapter. The streamline design of the 2808 offers the flexibility and performance demanded by today's broadband professional.

- Wide Bandwidth of 40 to 860 MHz Accommodates Up to 110 Channels on All Models
- Provides Excellent Picture Quality with a CNR up to 54.5 dB, CSO of -63 dBc, and CTB of -66 dBc
- RF Output Up to +28 dBmV Allows a Greater Number of Drops or Splits
- Wide Optical Input Range of -8 dBm to +4.5 dBm Permits the Use of a Lower Power Transmitter, Reducing System Cost
- Built-in, Universal AC Power Supply Frees System User from Bulky Wall-Mount AC Adapters

2809 77 Channel LDS CATV Optical Receiver

The 2809 77 Channel CATV Optical Receiver facilitates a low-cost system for transporting up to 77 channels of VSB/AM modulated signals over a singlemode optical fiber. The 2809, working with 2806 transmitter, provides excellent performance up to 10 km with full channel loading, high sensitivity, and 550 MHz of usable bandwidth. With a wide optical input range of -8.0 to +4.5 dBm and +18 dBmV of RF output at 0 dBm optical input, the 2809 allows excellent performance for intra-facility limited distance applications, such as corporate CATV delivery and campus/enterprise distribution where cost, small size, and performance are major considerations. This low-cost system gives CATV providers the ability to provide reliable limited distance fiber optic video distribution systems.

- Bandwidth of 40 to 550 MHz Accommodates Up to 77 Channels
- Provides Excellent Picture Quality with a CNR up to 54.5 dB, CSO of -63 dBc, and CTB of -66 dBc
- Low Profile, Rugged Package Allows Great System Installation Flexibility
- Wide Optical Input Range of -8 dBm to +4.5 dBm Permits the Use of a Lower Power Transmitter, Reducing System Cost
- Excellent for HFC, Short-Haul, Intra-Facility, and Campus/Enterprise Distribution

FOCN Series Compact Fiber Optic Node

Blonder Tongue

- Compact Size
- 870 MHz Forward Bandwidth, 5-42 MHz Return Bandwidth (on 2-way models)
- Trie-color LED for Optical Input Status
- LEDIndicator for Return Laser Status
- 12 VDC Powering Versatility

FRDA Series Fiber Receiver & Distribution Amplifier

- LED For Optical Input Status
- Gain and Slope Controls
- Exceptional CNR Performance At Low Optical Input Levels
- 860 MHz Power Doubling Hybrid
- Optical Input Jack Scaled 1V/mW Provides Precise Measurement Capability Using DC Voltmeter

FRRA Series Fiber Receiver & Distribution Amplifier

- LED For Optical Input Status
- Gain and Slope Controls
- Exceptional CNR Performance At Low Optical Input Levels
- 860 MHz Power Doubling Hybrid
- Optical Input Jack Scaled 1V/mW

PMN-1 Mini Indoor Optical Node

PICO DIGITAL

- Bi-directional operation with forward bandwidth from 54~1000MHz (analog and digital) and reverse bandwidth from 5~42MHz.
- Full 25dBmV typical RF output for superior C/N performance.
- Wide optical input range (-6dBm to 3dBm) provides excellent operation at low optical input levels.
- 12Vdc line powered with a wall mounted 20/240Vac wall adaptor.

TITAN PHOTONICS

HFC Mini Node

Applications

- HFC node splits
- CATV and data services fo rfiber MDU and business parks
- Supports DOCSIS 3.0 data applications as well as HDTV and interactive TV services
- Add capacity to existing HFC served areas without expensive infrastructre upgrades

Features and Benefits

- Small form factor rugged case for long life in harsh conditions
- Temperature hardened for use in non temperature controlled environments
- Optional built in WEM allows forward and return path signals to share the same fiber
- Precision laser control circuitry greatly reduces data corruption, and minimizes ingress noise
- Full range forward path (up to 1GHz) accommodates content growth into the future
- 6/42MHz or 5/65MHz band-split options for world-wide deployments

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PONA 2100 Series

Erbium Doped Fiber Amplifier

The EMCORE PONA 2100 Series Erbium Doped Fiber Amplifier (EDFA) is an ideal building block for OEM system integrators. The family of PONA 2100 series EDFA's is designed to meet the most demanding noise performance requirements of CATV applications, and performs all the functions required of an optical amplifier for system integration. Packaged in a convenient 1 RU housing, the PONA 2100 series EDFA's provide optical isolation on the input and output of the gain block for stable, low noise operation. The input and output optical signal power levels are detected for monitoring and control. The input optical signal is amplified with active gain control for a constant output power level, or with active output power control for constant gain mode. The PONA 2100 series EDFA's also provide monitors and associated alarms for all vital characteristics. The optical output of the PONA 2100 series EDFA's can be split into multiple ports by an optional external splitter.

APPLICATIONS

- High Performance Supertrunking Links
- High Power Distribution Networks
- Redundant Ring Architectures
- FTTx Networks

PONA 3000 Series

Erbium Doped Fiber Amplifier

The EMCORE PONA 3000 Series Fiber Optical Amplifier Module is an ideal building block for OEM system integrators. The family of PONA 3000 Optical Amplifiers is designed to meet the most demanding noise performance requirements of CATV and FTTx applications, and performs all the functions required of an optical amplifier for system integration. Packaged in a convenient 2RU housing, the PONA 3000 series optical amplifiers provide optical isolation on the input and output of the gain block for stable, low noise operation. The input and output optical signal power levels are detected for monitoring and control. The input optical signal is amplified with active gain control for a constant output power level, or with active output power control for constant gain mode. The PONA 3000 series optical amplifiers also provide monitoring functions and associated alarms for all vital characteristics. The optical output of the PONA 3000 series optical amplifiers can be split into a number of ports by an optional internal splitter.

APPLICATIONS

- High Performance Supertrunking Links
- High Power Distribution Networks
- Fiber Deep Architectures
- FTTx Networks

LSON TECHNOLOGY INC.

4 to 24 OUTPUTS 1550nm EDFAs for VERY LARGE DISTRIBUTION APPLICATIONS

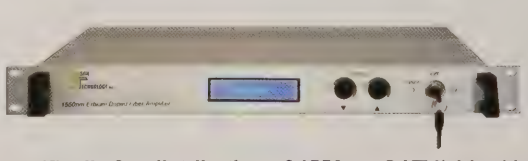
OTEA-CL Series

LaserLite: 1550nm Optical Amplifier

- Single channel booster EDFA with 4 to 24 optical outputs @+18 to +22dBm each
- Specifically for distribution of 1550nm video/data in HFC, PON or FTTH systems
- Takes direct input from a 1550nm transmitter (EM or DM) without an intermediate driver
- Coolerless pump lasers reduce overall power consumption and increase reliablity
- Optical output can be adjusted up to 3dB below rated power via RS-232 port
- Front-Panel and RS-232 serial interface for monitoring and control of EDFA
- 110/220 V_{AC} and -48 V_{DC} powering options

OTEB-CO-B Booster EDFA

- Low optical input level requirements with excellent low noise performance at high output
- 90-254 Volts AC power supply, DC option not available
- Optional SNMP monitoring
- 1540nm to 1560nm wavelength range
- LED indicators and LCD display for easy setup and maintenance
- Single, dual and quad optical output options
- SC/APC optical connector standard



Specifically for distribution of 1550nm CATV/video/data in HFC, PON/AON or FTTH systems.

Detailed Information On Products, Please Visit Our Website www.tonercable.com

Toner Cable Equipment, Inc. 800-523-5947
• Phone 215-675-2053 • Fax: 215-675-7543 • info@tonercable.com • www.tonercable.com

OLRT/OLRR Rugged L-Band Link

The Olson Model OLRT/OLRR Rugged L-Band Link offers a high performance, versatile transport link in a very compact and rugged package. The Rugged L-Band Link has been engineered to meet today's high performance standards for L-Band transport with an extreme bandwidth range that will also allow the system to handle the next generation of satellite signals. The link is ideal for a wide variety of communications applications, including L-Band satellite antenna remoting, trunking radio, telemetry tracking, and time and frequency reference distribution. The standard frequency range is 500MHz to 3,000MHz. The extended frequency range option of 10MHz to 3.6GHz allows this system to accommodate additional transponders coinciding with common European satellite communication applications.

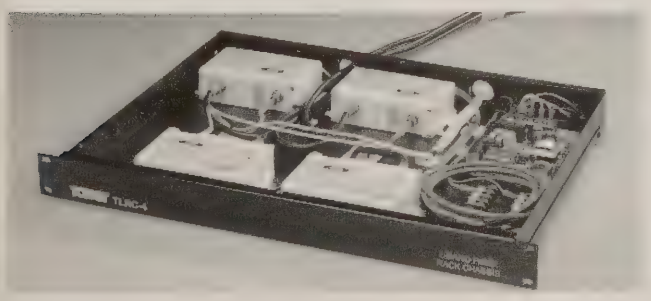
OLAT/OLAR Advanced L-Band System

The Olson OLAT/OLAR Advanced L-Band System offers a feature-rich, versatile system in a very compact package. The Advanced L-Band system has been engineered to meet today's high performance standards for L-Band transport with an extreme bandwidth range that will also allow the system to handle the next generation of satellite signals. The system is ideal for a wide variety of communications applications, including L-Band satellite antenna remoting, trunking radio, telemetry tracking, and time and frequency reference distribution. The extended frequency range to 4GHz allows this system to accommodate additional transponders coinciding with common European satellite communication applications.

TLRC-4 L-Band Fiberlink

Rack Mount Chassis

The TLRC-4 is a standard 1 unit high (1 3/4") 19" rack mount chassis for mounting Ortel L-Band and IF Fiber Optic Transmitters and Receivers. The TLRC-4 is designed to mount up to 4 of the modules and incorporates an internal power supply. The installation of the modules is easily accomplished by removing the top cover and fastening the modules in place using the hardware supplied. Wiring is also straight forward, and is accomplished by connecting the leads on the Ortel modules to the terminals in the chassis using the solderless connectors supplied. The chassis features a switching power supply 120VAC - 240 VAC for international applications and utilizes an IEC standard power cord.



3112 & 4112 LightLinks

Linear Fiber Optic Lightlinks™ Transmitter & Receiver for Direct Broadcast Satellite Reception in Multiple Dwelling Units

ORDERING INFORMATION

Model	Description
3112A	Transmitter, 950-2050 MHz, Flanged Mount
4112A	Receiver, 950-2050 MHz, Flanged Mount
10347A	Transmitter, 950-2050 MHz, Plug-In
10447A	Receiver, 950-2050 MHz, Plug-In
10357A	Transmitter, IF, 10-200 MHz, Plug-In
10457A	Receiver, IF, 10-200 MHz, Plug-In
10990A	Rack Chassis for Plug-Ins, 19" x 3RU
10901A	Main Power Supply for Rack Chassis
10901B	Standby Power Supply for Rack Chassis

OLMR Miniature L-Band Receiver

Compact wide-bandwidth L-Band receiver offers excellent performance at low cost.

Wide bandwidth; 10-3,600MHz handles all CATV and satellite signals including up to four stacked polarizations.

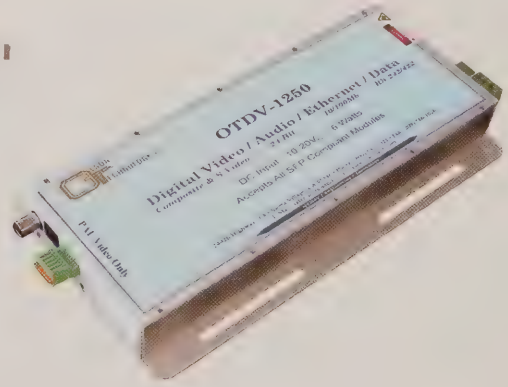
Ordering Information

OLMR-X3600-75-SA	Mini L-Band Receiver, 10MHz-3.6GHz, PIN Detector, SC/APC Opt Conn, 75Ω (F-Style)
OLMR-X3600-75-FA	Mini L-Band Receiver, 10MHz-3.6GHz, PIN Detector, FC/APC Opt Conn, 75Ω (F-Style)
OLMR-X3600S-75-SA	Mini L-Band Receiver, 10MHz-3.6GHz, High Sensitivity APD, SC/APC Opt Conn, 75Ω (F-Style)
OLMR-X3600S-75-FA	Mini L-Band Receiver, 10MHz-3.6GHz, High Sensitivity APD, FC/APC Opt Conn, 75Ω (F-Style)
OLMR-X3600-50-SA	Mini L-Band Receiver, 10MHz-3.6GHz, PIN Detector, SC/APC Opt Conn, 50Ω (SMA-Style)
OLMR-X3600-50-FA	Mini L-Band Receiver, 10MHz-3.6GHz, PIN Detector, FC/APC Opt Conn, 50Ω (SMA-Style)
OLMR-X3600S-50-SA	Mini L-Band Receiver, 10MHz-3.6GHz, High Sensitivity APD, SC/APC Opt Conn, 50Ω (SMA-Style)
OLMR-X3600S-50-FA	Mini L-Band Receiver, 10MHz-3.6GHz, High Sensitivity APD, FC/APC Opt Conn, 50Ω (SMA-Style)

OTDV-1250

Multimedia/Multiformat Transport Li

The world's most versatile and highest quality unidirectional or bidirectional baseband NTSC or PAL B, D, G, H or I video & audio transport link includes selectable low-speed data (RS-232 or RS-422) and auto-negotiating 10/100Mb/s Ethernet.



Ordering Information

OTDV-1250-B	NTSC Only - Bidirectional Digital Video, Audio, Data Transport Link.
OTDV-1250-TA	NTSC Only - Transmit Only Digital Video, Dual Audio, Data Transport Link.
OTDV-1250-RA	NTSC Only - Receive Only Digital Video, Dual Audio, Data Transport Link.
OTDV-1250-TAA	NTSC Only - Transmit Only Digital Video, Quad Audio, Data Transport Link.
OTDV-1250-RAA	NTSC Only - Receive Only Digital Video, Quad Audio, Data Transport Link.
OTDV-1250P-B	PAL B, D, G, H and I Only - Bidirectional Digital Video, Audio, Data Transport Link.
OTDV-1250P-TA	PAL B, D, G, H and I Only - Transmit Only Digital Video, Dual Audio, Data Transport Link.
OTDV-1250P-RA	PAL B, D, G, H and I Only - Receive Only Digital Video, Dual Audio, Data Transport Link.
OTDV-1250P-TAA	PAL B, D, G, H and I Only - Transmit Only Digital Video, Quad Audio, Data Transport Link.
OTDV-1250P-RAA	PAL B, D, G, H and I Only - Receive Only Digital Video, Quad Audio, Data Transport Link.

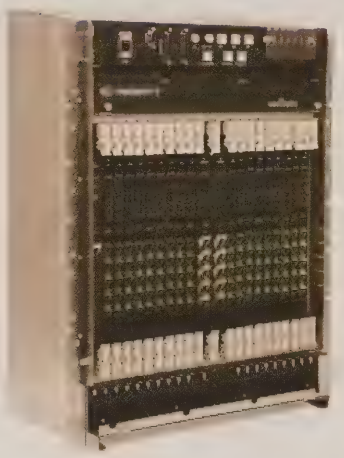
Order SFP Modules Separately, contact Toner Cable for Model / Configuration Options

Trident7® Optical Line Terminals

aurora NETWORKS

Aurora Networks' Trident7 Universal Access Platform (T7) affords network operators the most options by supporting GPON and GEPON (EFM PON) together with the emerging 10G-EPON and XGPON standards to ensure longevity to meet growing consumer demand. Regardless of the chosen standard, Aurora Networks can meet the needs of network operators worldwide without marketing a bias toward one technology. Aurora Networks' customers can rest assured they are deploying the network that will best meet their needs.

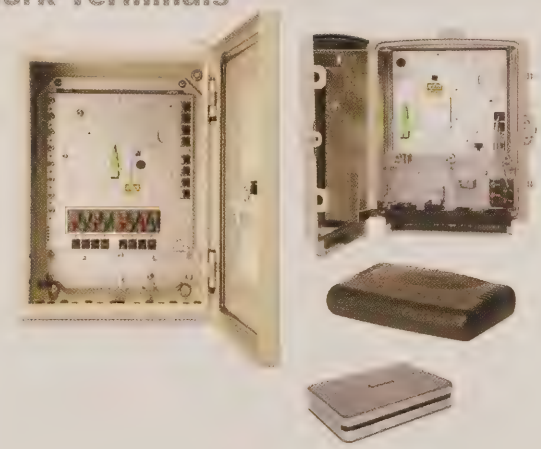
- Support of multiple standards from a common platform
  - IEEE 802.3 GEPON (EFM PON)
  - ITU G.984 GPON
  - IEEE 10G-EPON (future)
  - ITU XGPON (future)
- Scalable platform
  - 180 Gbps full duplex backplane
  - 64 Gbps uplink
  - Up to 2,304 ONTs
- Two form factors
  - Chassis-based OLT (14 RU)
  - Compact OLT (2 RU), temperature-hardened
  - Common modules and management



Trident7® ITU-T G.984 GPON Optical Network Terminals

Aurora Networks sets the standard with the broadest selection of ONTs available to service single-family residential units, multi-dwelling units, and businesses. Our suite of ITU-T G.984 compliant ONTs includes outdoor versions of the ONT-G888 and ONT-G1321 series as well as indoor and outdoor versions of ONT-G4000 series. Each series of these ONTs has unique port configurations and features that optimize service delivery for particular subscriber modalities, thereby maximizing the network's penetration and revenue potential.

- Single Dwelling Unit (SDU), Multiple Dwelling Unit (MDU), and Business Applications
- Aesthetic indoor and hardened outdoor models
- Triple-play data (10/100/1000BASE-T), Voice (POTS and VoIP), and Video (IP and RF with Integrated Return) Services
- USDA Rural Developm
  Listed and homologati
  for many countries



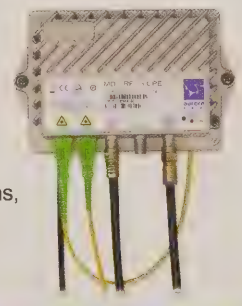
RFOG

Advantages of RFoG

The RFoG solution enables cable operators to achieve the bandwidth gains of FTTP without changes to standard equipment in the headend or home.

RFoG:

- Delivers the same video, voice and data services as HFC networks
- Uses the same back office and provisioning systems as HFC networks
- Leverages the installed base of set-tops, cable modems, and embedded multimedia terminal adapters (eMTAs)
- Requires minimal new installation training



CPE

Aurora's RFoG CPEs enable cable operators to extend service offerings over fiber into new residential, business park and multiple-dwelling unit (MDU) markets. This family of CPE devices supports RFoG and standard PON-based applications. Features include:

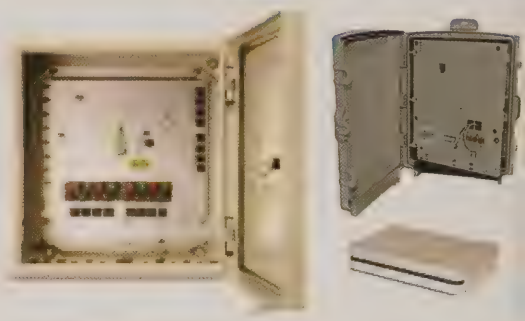
- Indoor or outdoor mounting
- RFoG-only configuration
- RFoG + PON configuration
- High-output power versions supporting 32 units in MDUs
- OBI-free™ solution

Trident7® IEEE 802.3 GEPON Optical Network Terminals

aurora NETWORKS

Optical Network Terminal Selection

Aurora Networks sets the standard with the broadest selection of ONTs available to service single-family residential units, multi-dwelling units, and businesses. Our suite of IEEE 802.3 EFM (GEPON) ONTs includes the ONT-E4020i, ONT-E1320X, ONT-E1321X, ONT-E1321X-RTN and ONT-E888X-RTN models. Each of these ONTs features unique port configurations that optimize service delivery for particular subscriber modalities, thereby maximizing the network's penetration and revenue potential.



- **Single Dwelling Unit (SDU), Multiple Dwelling Unit (MDU), and Business Applications**
- **Aesthetic indoor and hardened outdoor models**
- **USDA Rural Development Listed**
- **Triple-play data (10/100/1000BASE-T), Voice (POTS and VoIP), and Video (IP and RF with Integrated Return) Services**

Indoor ONTs

The ONT-E4020i includes a market-leading four (4) 10/100/ 1000BASE-T ports. Standard on the ONT-E4020i is Aurora's per-port Quality of Service (QoS) feature, which allows data to be managed on a per-port basis, thereby providing a powerful mechanism through which network operators may glean additional revenue through differentiated services. Multiple ports provide subscribers the option of dedicated ports for IP video, VoIP services, or multiple computers without the need for a separate hub or router inside the residence. The ONT-E4020i also provides the capability to activate an embedded residential gateway feature with a licensed software upgrade.

ONT-E4020i

Outdoor ONTs

The Aurora Networks outdoor ONT series provides one (1) 10/100/1000BASE-T and 3 10/100BASE-T data ports with per-port QoS, two (2) POTS ports, and one (1) available RF port for native support of both analog and QAM video with integrated RF return. Suitable for residential, SOHO, and small business applications, this ONT series is field hardened and does not require an environmentally controlled enclosure. A snap feature on the cover ensures a water resistant electronics compartment while individual self-sealing ports prevent water and insects from entering. The ONT-E132x series is designed to operate in temperatures ranging from -40° to +60° C, has dimensions of 10.9" H x 8.9" W x 2.9" D, and weighs 5.6 pounds.

ONT-E1321X-FRU-E in ENID-CH Enclosure

The ONT-E888 is designed to deliver a suite of advanced services to as many as eight subscribers via eight (8) 10/100BASE-T ports with per-port QoS, eight (8) POTS ports, and eight (8) RF ports with integrated RF return. This ONT is environmentally hardened, designed for -40° to +60° C operation, and can be pole or wall mounted. The ONT-E888 is 15.5" H x 11.75" W x 8.5" D and weighs 21.6 pounds.

NanoNode RFoG ONU

TITAN PHOTONICS

Features and Benefits

- Standards based1610nm/1310nm versions allow interoperability with other ONUs in the network.
- Small form factor and intelligent interface layout for easy integration to most applications
- Temperature hardened for use in even the most harsh working environments
- Optional high power return lasers with extremely low idle output allow robust 64 split RFoG networks
- Precision laser control circuitry greatly reduces data corruption, and minimizes ingress noise.
- Fully compatible with GPON and EPON and HFC networks
- Powered via standard 12VDC either using a 12V AC adapter, or through the COAX drop cable.

Applications

- Standard RFoG FTTH network with up to 64 splits
- Overlay GPON or EPON networks
- Supports DOCSIS data applicationsas well as HDTV and interactive TV services
- MDU applications for high split, fiber distribution applications

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The Olson Technology, Inc. **Model OTPN-3850-SA** provides 50-3,850 MHz bandwidth, allowing it to carry CATV signals from 50-870 MHz along with two stacked 950-2,150MHz L-Band signals. The L-Band signals are usually at a level below the CATV signals.

OLSON TECHNOLOGY INC.

OTPN-3850-SA 3.85 GHZ

Wideband FTTH PON Receiver

- Wide bandwidth FTTH PON receiver incorporates a WDM to pass 1310nm and 1490nm and to detect 1550nm over a bandwidth of 50-3,850 MHz.
- Receive only indoor optical node for fiber-deep FTTX/PON CATV applications.
- Wide operating optical input window of 0 to -6dBm at 1550nm.
- CATV parameters are optimized at -4dBm optical input.
- CATV RF output: +23dBmV typical per channel at 3% OMI per channel over rated optical input window.
- Full forward path bandwidth of 50-3,850MHz with low noise and distortion accommodates full band CATV and multiple satellites.
- Compatible with most external frequency destackers. An external destacker is required to recover stacked satellite signals.
- Green LED for positive indication of power.
- Red LED for optical input loss (signal level below -10dBm).
- Open collector alarm for optical input loss (when signal level drops below -10dBm).
- +12 to+16VDC power.

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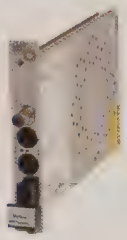
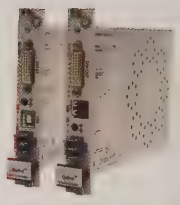
OTP-1SD

ASI-SDI Video, Singlemode / Multimode Fiber Optic Link (Extender)



OTP-1DVI2A1UKM

DVI / VGA / RGB / RBGHV / YPbPr, Analog Audio, USB KVM



OTP-3SD

ASI / SDI Video / 3 Channels / Audio Singlemode or Multimode Fiber Optic Link (Extender)

OTX-1HDMI-IR

HDMI with IR Fiber Optic Extender

OTP-1SD2BA

ASI / SDI Video / Audio Singlemode or Multimode Fiber Optic Link (Extender)

OTX-1DVI-SD

DVI Video, RS-232, Stereo Audio Fiber Optic Extender

OTP-6SD

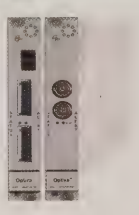
ASI / SDI Video / 6 Channels / Audio Singlemode or Multimode Fiber Optic Link (Extender)

OTS-1L

Wideband Optical Link

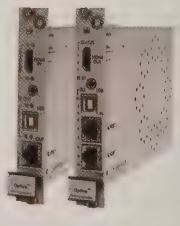
OTP-2V4BA

Analog Video / 2 Channels (Composite) / Audio, Singlemode or Multimode Fiber Optic Link (Extender)



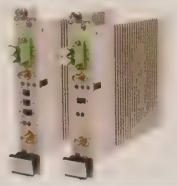
OTC-1HDMI-IR

Ultra HD HDMI Transport Link Over CATx with IR Extender



Optiva OTS-1L2 3 GHz Dual Wideband Fiber Optic Links

Optiva Dual Wideband Fiber Optic Links are optimized to perform in the 50 MHz to 3 GHz frequency range providing transparent signal transportation for satellite antenna applications. The OTS-1L2 is a dual RF fiber optic link that accepts two RF inputs and provides two RF outputs with a single plug-in pair. This dual-density card increases the chassis capacity by a factor of two.



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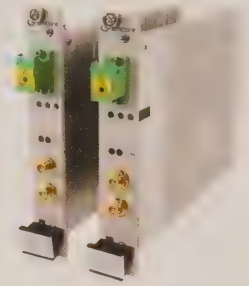
Optiva OTS-2L10 10 MHz / L-Band Fiber Optic Link

EMCORE's Optiva OTS-2L10 10 MHz / L-Band Fiber Optic Links are optimized to provide transparent, simultaneous 10 MHz and L-Band signal transport for VSAT antenna applications. The Optiva OTS-2L10 provides excellent isolation of the 10 MHz reference signal from L-Band signals at the transmitter and receiver with very low phase noise, which facilitates greater flexibility to locate VSAT antennas for optimum performance.

The Optiva OTS-2L10 is designed with optically-isolated uncooled DFB lasers that enable high-dynamic-range links with fixed gain up to 10 km. Connection is via 50 Ohm SMA and the OTS-2L10 includes receiver DC output for the BUC upconverter with transmitter and receiver RF power monitoring via LED, SMA & SNMP.

Applications

- VSAT Antenna Signal Transport



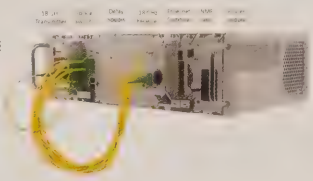
Optiva OTS-ODLS 40µs Max

Internal Fiber Delay Line System

The Optiva OTS-ODLS, 18 GHz Internal Fiber Delay Line System is designed for use with Optiva OTS-2 18 GHz transmitter, receiver, optical switches, and EDFA's. The optical switches allow for up to four separate delays to be used with a maximum delay time of 40 µs. The system delivers unmatched performance for radar testing, signal processing, phased array antennas and phase noise testing with greater flexibility than traditional coax or waveguide solutions.

Applications

- Radar System Testing
- Electronic Warfare (EW) Systems
- Phased Array Antennas
- Models
  - 18 GHz
  - 22 GHz
  - 40 GHz
- Signal Processing



Optiva OTS-2 18 GHz Unamplifiied

Microwave Band Fiber Optic Links

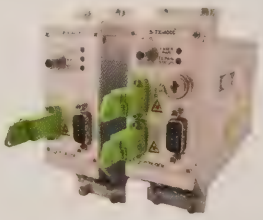
50 MHz to 18 GHz Unamplified Microwave Transport System

The Optiva OTS-2 18 GHz Microwave Band transmitter and receiver are ideal to construct transparent fiber optic links in the 50 MHz to 18 GHz frequency range for antenna remoting, electronic warfare systems, broadband delay lines, signal processing systems and other high-dynamic-range applications.

Optiva satellite and microwave transmitters and receivers are SNMP compliant. They can be housed in the same chassis and monitored by the same Network Management System (NMS) as Optiva HD video, audio, serial data, and USB extension / distribution cards to support transport of multiple signal formats and frequency bands in a single flexible platform.

Applications

- Microwave Antenna Signal Distribution
- Electronic Warfare (EW) Systems
- Broadband Delay Line and Signal Processing Systems
- Frequency Distribution Systems
- Radar System Calibration
- Phased Array Antenna Systems, Interferometric Antenna Arrays



Optiva OTS-2 C-Band

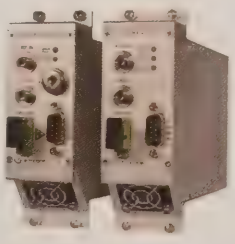
RF Fiber Optic Links

The Optiva OTS-2 C-Band transmitter and receiver are ideal to construct downlink 3.400 to 4.200 GHz and uplink 5.850 to 6.725 GHz transparent fiber optic links for antenna remoting, electronic warfare systems, broadband delay lines, signal processing systems and other high-dynamic-range applications.

Optiva satellite and microwave transmitters and receivers are SNMP compliant. They can be housed in the same chassis and monitored by the same Network Management System (NMS) as Optiva HD video, audio, serial data, and USB extension / distribution cards to provide multiple format and frequency

Applications

- Satcom C-Band Antenna Signal Distribution
- Ground Terminal & Intra-Facility Links
- Site Diversity Systems
- Electronic Warfare (EW) Systems
- Broadband Delay Line and Signal Processing Systems



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Toner Cable Equipment, Inc. 800-523-5947

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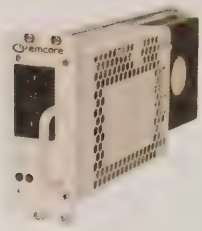
Power Supplies



PS-200F

200 watt fan cooled power supply for the OT-CC-16F chassis. Hot swappable 100-240 VAC 50/60Hz operation. Choice of North American (-NA), European (-EU) or United Kingdom (-UK) power cord.

PS-100

100 watt fan cooled power supply for the OT-CC-16 chassis. Hot swappable 100-240 VAC 50/60Hz operation. Choice of North American (-NA), European (-EU) or United Kingdom (-UK) power cord.

PS-200

200 watt fan cooled power supply for the OT-CC-16 chassis. Hot swappable 100-240 VAC 50/60Hz operation. Choice of North American (-NA), European (-EU) or United Kingdom (-UK) power cord.

pproved

PS-9060

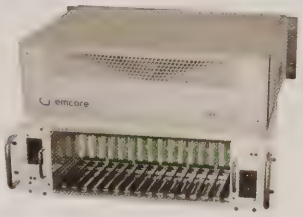
60 watt fan cooled power supply for the OT-CC-6-1U chassis. Hot swappable 100-240 VAC 50/60Hz operation. Choice of North American (-NA) European (-EU) or United Kingdom (-UK) power cord.

PS-9012

18W wall mount power supply for the OT-DTCR-1 & -2 desktop enclosures. 100-240 VAC 50/60Hz operation. Includes regional power socket adapters.

Enclosures for Optiva Insert Cards

OT-CC-16F



The new Optiva OT-CC-16F, with internal coolin fan, and standard OT-CC-16 enclosures are ruggedized 3RU aluminum rackmount chassis that accept any Optiva insert card. These high capacity 16-card plug-in chassis provide a "state of the art" platform for density and space utilization.

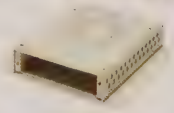
OT-CC-16

Both 3RU models feature hot-swappable, fan cooled power supplies and insert cards. Options include redundant power supplies, LED indicators for power and status, as well as reversable rack mounting ears. With the addition of the SNMP Management card (Model: OPV-CTLR-IC), all chassis and insert card health parameters may be monitored remotely.

OT-CC-6-1U

The OT-CC-6-1U series chassis is a low profile 1RU rackmount enclosure. It holds up to 6 Optiva insert cards with space for an optional SNMP Management card (Model: OPV-CTLR-IC). It features redundant, hot-swappable, fan cooled power supplies and rack reversable mountable ears. LED indicators are provided for power, fault, optical lock and network management status.

OT-DTCR-1



OT-DTCR-2

Our smallest and most compact enclosures, the OT-DTCR-2 and OT-DTCR-1 are perfect for installations that are space constrained or simply do not require rackable equipment. Popular uses are for remote video camera feeds, airport terminal signage, or simple point-to-point fiber links. These enclosures are passively cooled and are powered by the external PS-9012 power supply.

OPV-CTLR-IC

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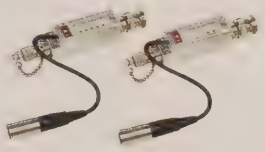
AFC-HDMI2

Ultra HD HDMI Active Fiber Cable (Extender)

OPTICAM^{3GHD}

Micro 3G HD-SDI Video Transport Up To 30 Km

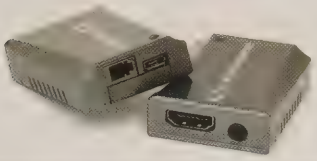


VX-1DVI-SD

DVI Video, RS-232, Stereo Audio Fiber Optic Extender

VX-1HDMI-IR

HDMI with IR Fiber Optic Extender



GBOX: GBX-F-HDMI-VGA

4K UHD Multimedia Transport over Fiber

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EOS-6000

Optical A/B Switch

The EOS-6000 Optical A/B Switch is a high-performance solution for network protection and optical redundancy. Packaged in convenient 1RU housing, this line of optical switches provides an automatic or manual fiber switching function to protect the network from inadvertent service outages due to up-stream optical signal degradation. Each fiber's optical signal power level is continuously monitored, as is an adjustable optical trip threshold for each channel. If the primary fiber's optical signal power level falls below the desired optical trip threshold, the unit automatically switches to the secondary fiber, thus eliminating the need for intervention of a system operator. The EOS-6000 is capable of manual switching or can be switched remotely via SNMP adding optical protection to many system applications.

The EOS-6000 series is designed as a low power, cost-effective, high-performance switching solution for applications that demand reliable and rapid response to changing network conditions

OTSON TECHNOLOGY INC.

OT-DCM-G

Dispersion Compensation Module

The OT-DCM-G Series Fiber-Based Dispersion Compensation Module removes distortion from optical signals that have traveled long distances over standard, positive dispersion, SMF-28 fiber. In digital systems, this dispersion limits the maximum transmission distance at a given data rate and causes increased BER. In analog systems, this dispersion manifests itself as second order distortion in the signal. The BER in digital systems and CSO in analog systems increases sharply with increasing SMF-28 fiber lengths. The OT-DCM-G Dispersion Compensation Module cancels out the fiber's positive dispersion, increasing transmission distance and enhancing the fidelity of all types of optical signals.

Fiber Optic Connectivity

Mating Sleeves

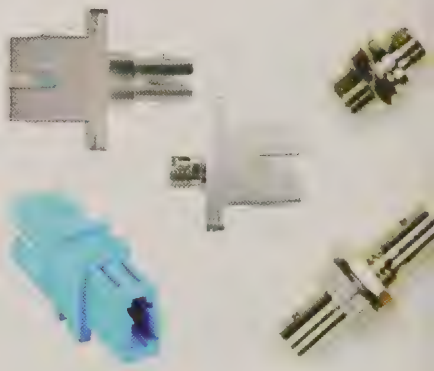
Mating sleeves are connectors for connecting together two optical connectors of the same type. These could commonly be referred to as a female to female splice connector in the copper world.

Model Number	Description
MS/F/F/SM/ST	Mating Sleeve, Female to to Female, Singlemode, ST/UPC Connector
MS/F/F/SM/SC	Mating Sleeve, Female to to Female, Singlemode, SC/UPC Connector
MS/F/F/SM/SCA	Mating Sleeve, Female to to Female, Singlemode, SC/APC Connector
MS/F/F/SM/FC	Mating Sleeve, Female to to Female, Singlemode, FC/UPC Connector
MS/F/F/SM/FCA	Mating Sleeve, Female to to Female, Singlemode, FC/APC Connector
MS/F/F/SM/LC	Mating Sleeve, Female to to Female, Singlemode, LC/UPC Connector
MS/F/F/SM/LCA	Mating Sleeve, Female to to Female, Singlemode, LC/APC Connector

Hybrid Adapters

Hybrid adapters are the connecting devices that allow you to mate one type of connector to another

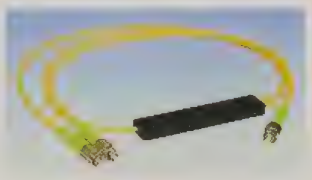
Model Number	Description
HA/F/F/SC/ST	Hybrid Adapter, Female to Female, SC/UPC to ST/UPC
HA/F/F/FC/ST	Hybrid Adapter, Female to Female, FC/UPC to ST/UPC
HA/F/F/SC/FC	Hybrid Adapter, Female to Female, SC/UPC to FC/UPC
HA/F/F/SC/LC	Hybrid Adapter, Female to Female, SC/PC to LC/PC
HA/F/F/SCA/FCA	Hybrid Adapter, Female to Female, SC/APC to FC/APC
HA/F/F/ST/LC	Hybrid Adapter, Female to Female, ST/UPC to LC/UPC



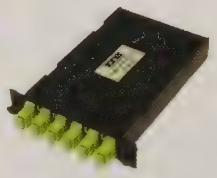
Optical Couplers (Splitters)

We stock a wide selection of optical couplers in several different packaging options. All couplers are precision dual window (1310/1550 nm) couplers.

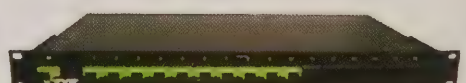
Light Duty



Heavy Duty



LG Style



Rack Mount

Fiber Optic Connectivity

Singlemode and Multimode, Simplex and Duplex Patchcords & Pigtails

We stock a vast selection of singlemode and multimode patchcords and pigtails in varying lengths with a selection of a number of industry standard connectors. Each patchcord or pigtail is supplied with a detailed data sheet with its test and performance results.

Features:

- T900 um Buffer tube for secure and reliable connectorization
- Yellow - singlemode, Orange - Multimode
- Aramid yarn reinforcement for strength and protection
- Tested and designed in accordance to Bellcore GR-409-CORE
- Meets TIA/EIA 586A
- Individually packaged

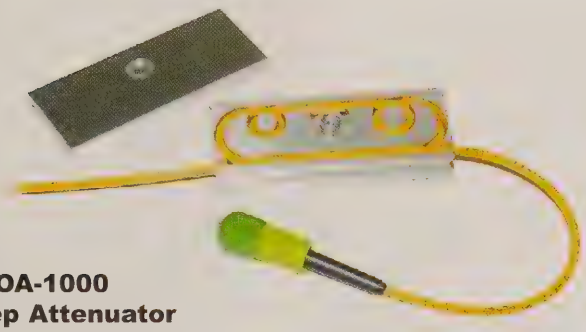
Availible Connectors:

SC/UPC, ST/UPC, SC/APC, LC/UPC,
FC/UPC, LC/APC, FC/APC, E2000/APC

Optical Attenuators

Optical attenuators are used normally at optical receivers to adjust for the optimum optical input power level to ensure proper operating parameters of the receiver. Both fixed (connectorized) attenuator and variable (step) attenuators are available.

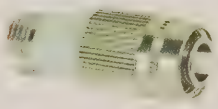
Step attenuators like the OTOA-1000 operate on the principle of putting a "microbend" in the optical cable allowing some light to escape the cladding, resulting in some light loss or attenuation. The OTOT-1000 has a combination of 1, 2, and 4 dB loops that when combined, can provide from 1 to 7 dB of attenuation in standard 3 mm singlemode optical cable at 1310 nm. Other cable or wavelengths may result in different attenuation characteristics.



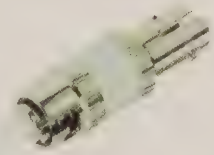
OTOA-1000
Step Attenuator

Fixed Attenuators

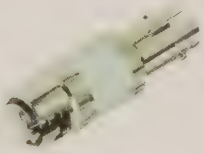
FC/UPC Male to Female



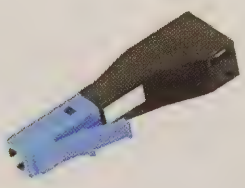
FC/APC Male to Female



ST/UPC Male to Female



ST/UPC Male to Female



LC/UPC Male to Female

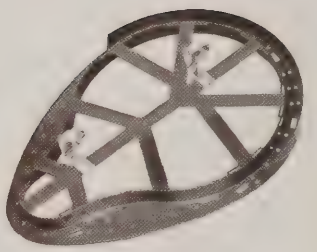
SC/UPC Male to Female

Fiber Optic Cable Storage

Fiber Optic Sno Shoes

The plastic Sno Shoe is used to store additional lengths of fiber along the strand for later use. Sno Shoe is a durable and cost ef fective tool for storing fiber optic cable in the air. Sno Shoes sold per p air.

Model	Description
2110-SSPTB	10" plastic Sno Shoe with hardware
2116-SSPTB	16" plastic Sno Shoe with hardware



Fiber Optic Cable Identification

Snap-On Fiber Cable Marker

Uncoil one end, place the marker on the cable, and snap it in place (6-1/4" long). Fits cable diameters up to 1". Printing on marker is "W ARNING FIBER OPTIC CABLE". Marker is orange.

Model	Description
62-1	Snap on cable marker (Package of 25)

Buried Cable Marking Tape

Buried cable marking tape is traditionally used when fiber optic cable is inst alled in a trench. It is usually recommended to backfill the trench p art way then install the tape in the top 6' of the trench so should someone dig they will hit the t ape before the fiber cable. A detectable and non-detectable version is available.

Model	Description
551165	Orange non-detectable, buried fiber cable tape 3" x 1000' reel
F16508	Orange detectable, buried fiber cable tape 3" x 1000' reel

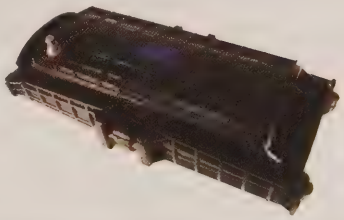
FibreFab™
Fibre Optic Connectivity Solutions

SPEEDWAY Fiber Splice Tray For Up To 24 Fibers

Introducing the revolutionary new FibreFab Speedway splice tray with unrivalled ease of use and flexibility. Featuring a unique external fibre pathway and pivoting splice holder arrangement this tray redefines the concept of splice management, combining fibre management and splicing control in one product. Due to its accommodating internal dimensions the Speedway splice tray is able to comfortably hold 24 splices with either heatshrink or crimp style splice protectors with up to 900µm buffered fibres.

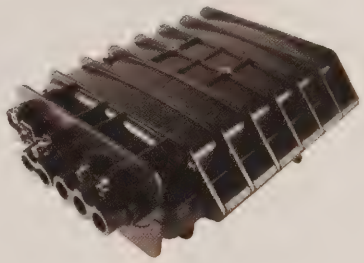
INLINE Fiber Splice Enclosure

The FibreFab inline enclosure is suitable for protecting fibre cable splices in straight through and branching applications. Its well-engineered injection moulded outer body make it impenetrable to the elements. It can protect splices and ensure reliability and usage in ambient temperatures from -40°C to +65 °C. It can be placed in aerial, underground, wall mounting, and duct mounting locations.



HINGED Fiber Splice Enclosure

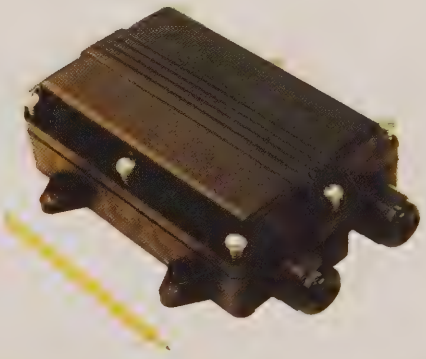
- Opens via left hand hinge
- Multi cable entry points
- Integrated Pressure valve
- Integrated Earth Point
- Holds up to 60 single Fibres
- Integrated fibre management
- Includes All Splice Protection
- Includes Wall Mounting Bracket and Fixings
- Can Be Pole Mounted (Optional Extra)
- Mechanically Sealed (compression)
- Multi Functional Splicing Options



24SPLICEBOX Box Fiber Splice Enclosure

- All-in-one construction
- Compact and lightweight
- Acid and alkaline resistant
- Airtight and waterproof
- Simple installation
- Made of acid-proof and impact resistant polypropylene
- Ideal for cable repair work
- Environmentally friendly
- Working Temperature Range: -40°C ~ 80°C
- Cable Entry Pulling Strength: 30kg
- Compression Resistance: 3000 N
- Suitable for loose tube cables or slotted core ribbon cables
- Can be used in through, branch, or mid-span type splice locations
- Suitable for aerial, underground, duct, or buried applications
- IP68

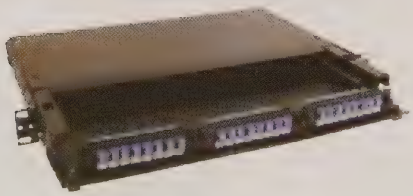
The FibreFab Mini enclosure is acid and alkaline resistant. Furthermore, its airtight and waterproof design makes it ideal for applications in wet/damp environment. Since the casing material is recyclable, environmental pollution is minimized. The ease of installation is evident, all one needs is a screwdriver from start to finish. In addition, for loose tube applications, no heat shrinking work is required.



FibreFab™
Fibre Optic Connectivity Solutions

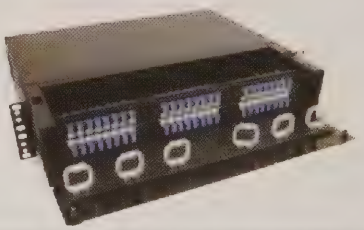
AM1U 1U AM Style Modular Patch Panel

- High grade steel and aluminium construction
- Hinged front plexiglass door
- Aluminium slide rails
- Powder coat finish in standard black
- Flexible internal cable management
- Fully flexible for 19" and 23" applications
- Sliding tray for ease of installation
- Integrated spring loaded tray retainer
- Holds up to 3 cassettes or LGX style adaptor plates
- Multiple adaptor options available, loaded or unloaded
- Splicing option available
- Side patch cord exit points
- Removable quick access top covers
- Removable front
- Accepts loose tube, distribution cable and MTP trunk cable



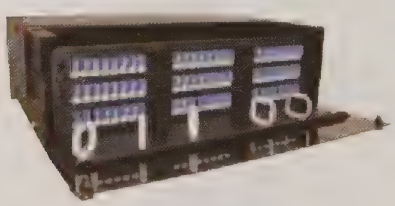
AM2U 2U AM Style Modular Patch Panel

- Up to 6 LGX components in 2U
- 19" and 23" Rack mountable
- Sliding tray for ease of installation
- Integrated spring loaded tray retainer
- Up to 6 x 24 fibre MTP cassettes
- Multiple adaptor options available
- Splicing option available.
- Side Patch cord exit
- Hinged front plexi glass door.
- Removable top cover
- Accepts loose tube, distribution cable and MTP trunk cable.
- ROHS, REACH SvHC.



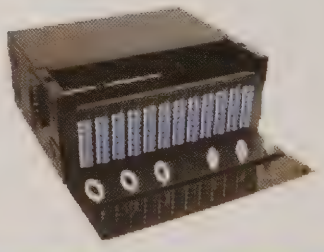
AM3U 3U AM Style Modular Patch Panel

- Up to 9 LGX components in 3U
- 19" and 23" Rack mountable
- Sliding tray for ease of installation
- Integrated spring loaded tray retainer
- Up to 9 x 24 fibre MTP cassettes
- Multiple adaptor options available
- Splicing option available.
- Side Patch cord exit
- Hinged front plexi glass door.
- Removable top cover
- Accepts loose tube, distribution cable and MTP trunk cable.
  ROHS, REACH SvHC.



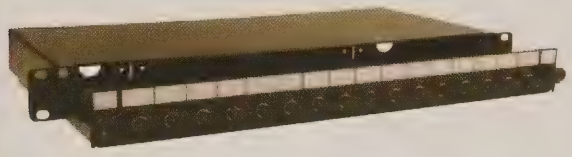
AM4U 4U AM Style Modular Patch Panel

- Up to 12 LGX components in 4U
- 19" and 23" Rack mountable
- Sliding tray for ease of installation
- Integrated spring loaded tray retainer
- Up to 12 x 24 fibre MTP cassettes
- Multiple adaptor options available
- Splicing option available.
- Side Patch cord exit
- Hinged front plexi glass door.
- Removable top cover
- Accepts loose tube, distribution cable and MTP trunk cable.
- ROHS, REACH SvHC.

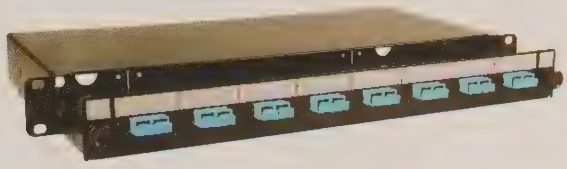


FibreFab™
Fibre Optic Connectivity Solutions

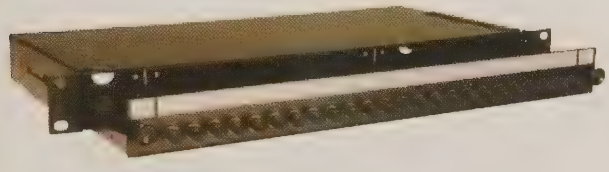
S00 / S14
Sliding Patch Panel
16 Position ST/FC Up
To 16 Fibers



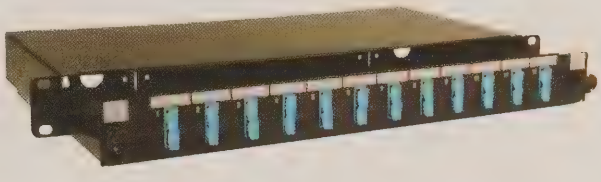
S05 / S06
1U Sliding Patch Panel
8 Position SC Duplex Up
To 16 Fibers



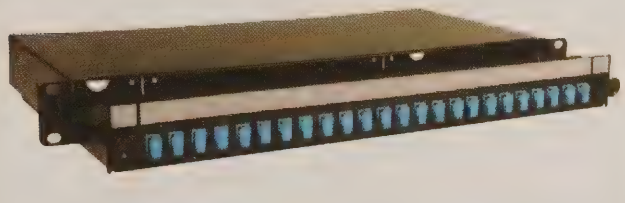
S01 / S02
1U Sliding Patch Panel
24 Position ST/FC Up
To 24 Fibers



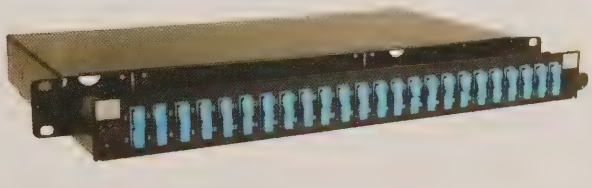
S07 / S08
1U Sliding Patch Panel
12 Position SC Duplex Up
To 24 Fibers



S03 / S04
1U Sliding Patch Panel
24 Position SC/LC/E2000 Up
To 48 Fibers



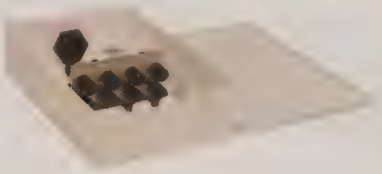
S09 / S10
1U Sliding Patch Panel
24 Position SC Duplex Up
To 48 Fibers



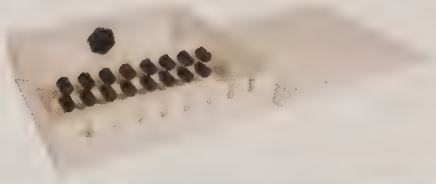
FibreFab™
Fibre Optic Connectivity Solutions

TW01/TW02

8/16 Position ST/FC Tamper Resistant Metal Wall Boxes, Up To 8/16 Fibers



TW01



TW02

TW03/TW04

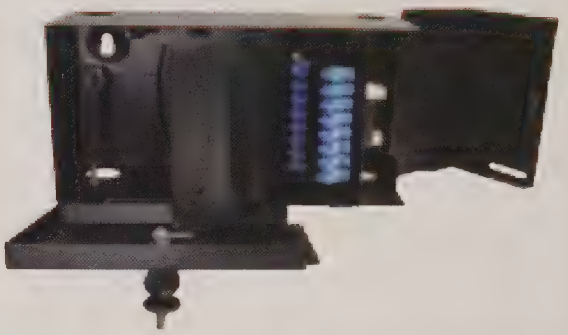
4/8 Position SC/LC/E2000 Tamper Resistant Metal Wall Boxes, Up To 8/16 Fibers

TW03

TW04

AM Style Lockable Wall Boxes Dual Module

- Up to 2 LGX components
- Wall mountable
- Multiple adaptor options available
- Splicing option available.
- Lockable Hinged door.
- Accepts loose tube and distribution cable
- ROHS, REACH SvHC.



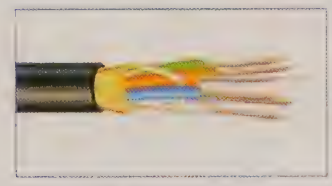
Lockable Slimline Wall Box

- Up to 24 fibre
- Multiple adaptor options
- 24 adaptor positions
- ROHS, REACH, SvHC
- Lockable single door
- Internal bend radius protection included
- Internal applications
- For use in multi dwelling units or demarcation points

Draka

Outdoor | AERONet

A complete family of reliable aerial self-supporting cable solutions - engineered to specific span & loading conditions - easy to design, place & access. The AERONet family supports fiber placement virtually everywhere on an overhead structure - from the communications space to the top ground wire - with standards-based performance (IEEE 1222, RUS, Telcordia GR-20) & proven compatibility with standard hardware & practices.



ezSPAN® ADSS All-Dielectric Self-Support

Cable Specifications	
Applications	Self-supporting Aerial Deployment for Communications & Transmission Space Engineered to Specific Span & Environmental Loading Conditions
Constructions	All Dielectric - Typical Span Lengths Dependent upon Span & Loading Conditions: Short Span (up to 1,000' / 300m) & Long Span (up to 2,500' / 760m)
Fiber Count	2 to 288 fibers in Color-coded Buffer Tubes
Fiber Types	Singlemode (ESMF, BendBright, TeraLight) / Multimode / Hybrid
Options	Single or Dual Jackets / Track Resistant Jacket Option for >4kV Space Potential Matching Pole Attachment Hardware: Dead Ends, Suspension Clamps
Performance	IEEE 1222, ANSI/ICEA S-87-640, RUS (PE90 Listed), Telcordia GR-20

Ordering Information	Series	Span Lengths
ezSPAN ADSS | Short Span	ADE	Up to 1,000' / 300m (dependent on loading)
ezSPAN ADSS | Long Span	ADL	Up to 2,500' / 760m (dependent on loading)

ezPREP® Loose Tube Figure 8

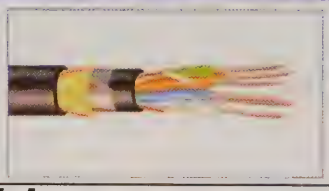
Cable Specifications	
Applications	Self-supporting Aerial Deployment for Communication Space Single-step Placement up to 600' (183m) Dependent on Loading Conditions
Constructions	Nonarmored & Armored with 1/4" (6.4mm) Integrated Messenger
Fiber Count	2 to 216 Fiber in Color-coded Buffer Tubes
Fiber Types	Singlemode (ESMF, BendBright, TeraLight) / Multimode / Hybrid
Performance	ANSI/ICEA S-87-640, RUS 7 CFR-1755-900 (PE90 Listed), Telcordia GR-20

Ordering Information	Series	Span Lengths
ezPREP Loose Tube | Figure 8	F8S	Up to 600' . 183m (Dependent on loading)

Draka

Outdoor | TERRAnet

A complete family of multi-purpose land-based solutions suitable for outdoor installations - aerial lashed, underground duct, & buried - with standards-based performance (ANSI/ICEA, RUS, Telecordia GR-20).



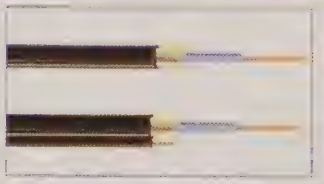
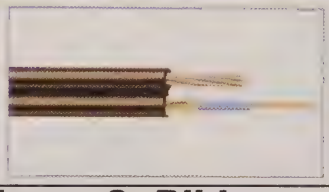
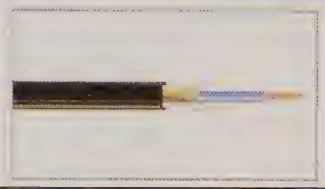
ezPREP® Loose Tube

Cable Specifications	
Applications	Multi-purpose Outdoor - Aerial Lashed, Duct, Direct Buried
Constructions	Dielectric, Armored, Double Armored
Fiber Count	2 to 432 Fibers in Color-coded Buffer Tubes
Fiber Types	Singlemode (ESMF, BendBright, TeraLight) / Multimode / Hybrid
Options	Central Loose Tube (2-12f) / Heavy Duty & -50°C Versions / Preconnectorized
Performance	ANSI/ICEA S-87-640, RUS 7 CFR-1755-900 (PE90 Listed), Telcordia GR-20

Ordering Information	Series	Fiber Count	
ezPREP Loose Tube | Central	C3H	2 to 12 Fibers	
ezPREP Loose Tube	ETH	2 to 288 Fibers	(12 Fibers per Tube)
		300 to 432 Fiber	(24 Fibers per Tube)
ezPREP Loose Tube | Heavy Duty	E3H	2 to 288 Fibers	(12 Fibers per Tube)

Outdoor | HOMEnet

A complete family of access cabling & connectivity for delivering Fiber-To-The Home & Business - a natural extension to TERRAnet trunk & distribution cabling. HOMEnet Certified Solutions combine best-of-breed Draka & Tyco products with proven installer know-how, all backed by a 10 year warranty.

ezDROP™ Flat, Figure 8, Ribbon

Cable Specifications	
Applications	Multi-purpose FTTx - Aerial Self-support, Direct Buried, Duct Using Existing Hardware & Methods
Constructions	Flat (Dielectric, Toneable) / Figure 8 / Ribbon (Dielectric, Toneable)
Fiber Count	1 to 12 Fibers (Flat) / 2 to 6 Fibers (Figure 8) / 4 or 6 fibers (4, 6f Ribbon)
Fiber Types	BendBright Singlemode Fiber Standard
Options	Packaging: Portable Spool / Box / Bulk Reel / Preconnectorized (1 or 2 ends)
Performance	Applicable ANSI/ICEA, RUS, Telcordia GR-20 for Drop Cable Requirements

Ordering Information	Series	Fiber Count
ezDROP | Flat, Dielectric	DFS	1 to 12 Fibers
ezDROP | Flat, Toneable	DFT	1 to 12 Fibers
ezDROP | Figure 8	DF8	2 to 6 Fibers
ezDROP | Ribbon, Dielectric	DRS	4 or 6 Fibers
ezDROP | Ribbon, Toneable	DRT	4 or 6 Fibers

quantumdata

Test multiple digital video interfaces with a single test instrument! HDMI – HDBaseT – 3G-SDI

780C MULTI-INTERFACE INTEROPERABILITY TESTER

The Quantum Data 780C Multi-Interface Interoperability Tester is a portable digital video generator and analyzer that enables you to run tests on various digital video devices and network distribution devices on site or in the R&D lab. The 780C instrument provides a 7 inch color touch screen for operation and for viewing status of outgoing and incoming video and audio. The 780C is equipped with multiple interface types including HDMI, HDBaseT, 3G-SDI and component analog. Testing digital interfaces is supported by both an output port and an input port to allow testing of digital video sources, displays, audio devices and distribution devices. ***Testing hybrid converter devices*** supporting 3G-SDI, HDMI, HDBaseT distribution networks is a key application of the 780C as well.

HDMI

Output Port - Emulates an HDMI source. Operates up to 300MHz for testing on HDMI 2.0 4K-capable HDMI HDTVs and other sink devices even at 50/60Hz with HDMI 2.0 4:2:0 pixel encoding.

Input Port - Emulates an HDMI sink. Operates up to 300MHz for testing HDMI 2.0 4K-capable HDMI source devices. Provides basic analysis of HDMI source devices including timing, InfoFrames and protocol tests for HDCP, EDID, CEC and connection detection events.

HDBASET

Output Port - Emulates an HDBaseT source. Operates up to 300MHz for testing the inputs into an HDBaseT downstream distribution device or network or for testing sink devices such as 4K-capable projectors and A/V receivers with native HDBaseT inputs.

Input Port - Emulates an HDBaseT sink. Operates up to 300MHz for testing HDMI 2.0 4K-capable HDBaseT source devices. Provides basic analysis of HDBaseT source devices including timing, InfoFrames and protocol tests for HDCP, EDID, CEC and connection detection events.

SDI/HD-SDI/3G-SDI

Output Port - Emulates an SDI/HD-SDI/3G-SDI source. Operates up to 2.97Gb/s bitrate for testing SDI monitors and displays.

Input Port - Emulates an SDI/HD-SDI/3G-SDI display. Provides basic analysis of SDI/HD-SDI/3G-SDI video streams including displaying the video in real time, measuring timing and checking audio.

ANALOG COMPONENT

Output Port - Emulates an analog component or RGB source. Operates up to 80MHz for testing on component analog inputs on HDTVs or RGB analog for testing computer displays.

MAIN FEATURES

Color Touch Screen - Large user friendly color touch screen enables you to operate the instrument and view incoming video and metadata from a one of the digital video source inputs.

Portability – Convenient size (7cm x 25cm x 15cm - 1.5Kg) enables easy transport throughout the lab or on site.

Test Pattern Library – Extensive test pattern library with over 50 patterns including 3D patterns and srolling and panning patterns. Optional test pattern packages from THX and Imaging Science Foundation (ISF) are also available.

Format Timing Library – Extensive video format library with over 300 resolutions.

Custom formats and patterns – Import custom test pattern bitmaps and video timings for use in testing.

One Button "Installer" Tests – Convenient test suites for HDMI and HDBaseT source, sinks and repeaters.

Real Time Status Bar - Provides a real time at-a-glance status of the output and input of any of the digital video outputs and inputs and provides the output status of the analog output.

Passthrough – Pass the incoming HDMI, HDBaseT or SDI out the HDMI output port for monitoring.

Auxiliary Channel Analyzer (ACA) – Monitor the connection sequence transactions for HDMI and HDBaseT for EDID exchange, connection detection and HDCP content protection transactions.

Protocol Tests – Run basic tests on HDMI and HDBaseT source and sink devices to verify InfoFrames, EDID, HDCP and CEC.

EDID Testing – Emulate any EDID including those from the Quantum Data EDID Library and test source response. Run automated EDID tests on HDMI and HDBaseT source devices.

Tilt Bail – Rests on a convenient angle on your benchtop for viewing and operating.

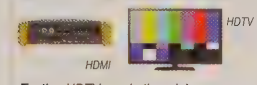
SD Card – Admin slot for upgrading and exporting test data.

RS-232 – Command line Interface for automated control and testing.

USB Port – Admin port used for command line control and transferring custom video formats, test patterns, EDIDs and exporting test reports.

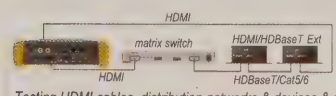
HDMI - APPLICATIONS

The HDMI interfaces support the following applications



Testing HDTVs and other sinks

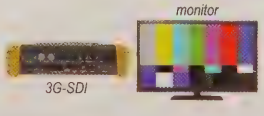
Testing HDMI sources and upstream distribution networks



Testing HDMI cables, distribution networks & devices & conversion devices

SDI/HD-SDI/3G-SDI – APPLICATIONS

The 3G-SDI interfaces support the following applications



Testing reference monitors and displays

Testing incoming 3G-SDI video stream

Televes has a solution for all your needs

PASSION for QUALITY

H30

H60

DOMIATIC FIBER OPTIC RECEIVER with OLC and MiniNodes

CATV, Satellite and Off-Air Meters · Spectrum Analyzers

T.OX

ONT (Optical Network Terminal)

OLT (Optical Line Terminal)

Digital HD Encoders · ATSC and Satellite Transmodulators · Fiber Optics Equipment

Televes®

Rugged, Lightweight & Reliable!

Install, Maintain & Troubleshoot DOCSIS 3.0 | Digital | Analog Cable TV Networks, Onsite or Remotely

Televés

H30 Digital Processing Handheld QAM Meter

H30D3 Analog / Digital / DOCSIS 3.0 Handheld Meter

- Remote Control & Measurements In an affordable package
- Rugged and Light Weight Total reliability
- Intuitive User Interface Reducing the learning curve
- Ergonomic Handheld Design Three buttons + thumbwheel
- Long Battery Life Over 5 hours on a full charge
- Lab-quality Precision Real-time digital processing
- Comprehensive Functions With pass/fail indicators
- Automatic SW upgrades Updated at all times
- 100% Automatic Signal detection

H45 Digital Processing 3.3 GHz Spectrum Analyzer

The H45 meter has been designed to obtain all the information instantaneously from the signal by the development of mathematical algorithms. Up to 20 MHz digitally captured in less than 10 ms. That simple, yet that dramatically important and difficult to develop. Only Televes could be the first to do it in a small Field Strength Meter.

A total revolution:
Real-Time sweeping speeds - Unprecedented preciseness - Unthinkable versatility.

Televes H45 with Digital Processing. Because revolution is not making a smaller meter.....Revolution is making a Digital Processing meter in a smaller format.Remote Control & Measurements In an affordable package

H60 Digital Processing 3.3 GHz Spectrum Analyzer

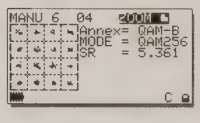
Televes set an unprecedented benchmark with the launch of the first portable field spectrum analyzer equipped with Digital Processing technology.

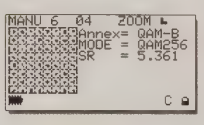
This milestone set a before and after in the certification of HDTV services in commercial and residential installations, for the first time the technicians had at their disposal the mathematical precision of sophisticated laboratory equipment in a portable format weighing less than 5 lbs.

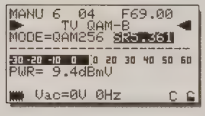
Four years later, Digital Processing keeps offering unparalleled functionality, and Televes launches its newest technological piece of art with substantial enhancements and state-of-the-art new features, now presented in a larger and much brighter screen. Rugged and Light Weight Total reliability.

BTPRO-1000 QAM / 8VSB / Analog Signal Analyzer

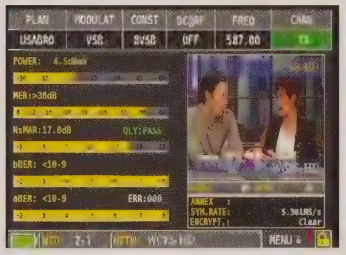
- QAM/8VSB/NTSC Measurements
- Extended frequency range of 4-1000 MHz
- MER, aBER, bBER, Noise Margin and Level/Power measurements plus Spectrum Analysis
- Automatic quality analysis: FAIL-MARGINAL-PASS
- Auto Seek & Store Function - an essential feature for creating custom memory channel plans. Scans receivable signals, determines signal type (QAM,8VSB or analog) and stores only those channels having signal levels above user defined values
- Ingress and Leakage Modes
- Data Logger Function: Steps through each channel in the "Active" memory plan and stores all related measurements
- Graphics Display
- Alpha-numeric keypad







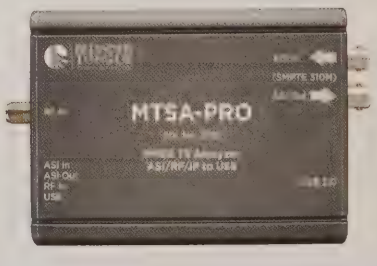
BTPRO-7000S HD Tablet / Touch Signal Analyzer

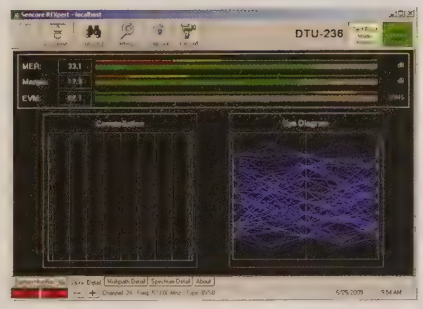


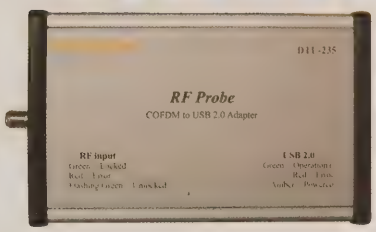
- Measurements:
  MER, PER, LDPC, BCH, aBER, bBER, EVM, noise margin, level/power, real time spectrum analyzer and constellation display
- CATV Measurements:
  DOCSIS downstream, INGRESS mode, LEAKAGE mode, BAR SCAN and TILT
- TV and CATV tuner, extended band, 4-1000 MHz
- Satellite tuner, extended band, 930-2250 MHz
- Auto discovery system automatically detects and selects analog and digital 8VSB/QAM TV signals in both Measurement and Spectrum modes
- Spectrum in real time, fast and super-fast with memory peak
- Detects, measures and displays video of MPEG 2/4 and H.264 HD programs
- All measurements, program lists, A/V PIDs, NET ID, virtual channel number, settings and pictures on one screen
- Automatic quality analysis: FAIL-MARG-PASS
- Auto memory, Manual memory and Datalogger functions
- Help function automatically identifies all the signals with digital modulation SAT, TV and CATV
- Bar scan TV and CATV function from 10 to 100 channels on one screen
- Audio decoding of AAC and AC3
- Battery test function, to regenerate and measure the batteries and calibrate the battery indicator
- Pre-memorized SAT transponder navigation
- Assisted satellite dish pointing
- DiSEqC commands

MTSA-PRO MPEG Transport Stream Analyzer ASI / RF / IP to USB

- Real time analysis via RF/ASI/IP input and TS file
- Single DVB-ASI input and single DVB-ASI output adapter for USB (half duplex)
- MPEG TS analysis and capture
- USB 2.0, bus powered, no power supply required
- ATSC, DVB-C, DVB-T and OpenCable DTV standards compliant
- ETSI TR 101 290 Priority with real-time 3-stage error monitoring reporting and error logging.
- Diagnostic and verification of MPEG designs
- PCR & PTS analysis, arrive time graphing, measurement display and jitter analysis
- Triggered recording
- Data rate analysis
- Table and packet views
- SI/PSI & PSIP view and interval analysis
- CAS view: ECM and EMM repetition rate and update time
- PES header analysis
- Real-time A/V decoding







DTU-236A 1 GHz QAM / 8VSB / ASI Analyzer

The DTU-236A RF Probe and RFXpert software are a comprehensive solution designed to provide real-time analysis and monitoring of terrestrial and cable signals (8VSB, QAM A/B/C and NTSC RF channels). The RFXpert software is intended to be loaded by the end-user on a PC or laptop and work in conjunction with the DTU-236A RF Probe. RFXpert provides complete RF analysis and logging, along with transport stream recording.

RFXpert provides easy-to-read spectral displays, both constellation and eye diagram displays, and the ability to turn off and on 8VSB tap equalization to see the uncorrected signal being received.

- True demodulated digital reading for MER, Pre-BER, Post BER and EVM
- A proof-positive method of signal documentation or drop-point comparisons with programmable, user defined logging and auto-inspection capabilities

Adding StreamXpert to a DTU-236A makes for a cost-effective and user-friendly MPEG2/H.264 transport stream analyzer. Signals can be analyzed from either the ASI or RF inputs of the DTU-236A and can be validated against industry standard ETR101-290 templates. Transport streams can also be captured in the field with StreamXpert for later use.

- Real-time analysis, monitoring and recording of MPEG Transport Streams
- PCR Accuracy and ETR101-290 checking
- Integrated MPEG2/H.264/VC-1 video decoding with MPEG, AAC and AC3 audio support

DTU-235 DVB-T Receiver USB Probe

The DTU-235 provides a portable field solution to tune QPSK or QAM COFDM frequencies directly on your laptop for easy field testing or recording. Combine the DTU-235 with RFXpert for a comprehensive and economical MPEG2 analysis solution.

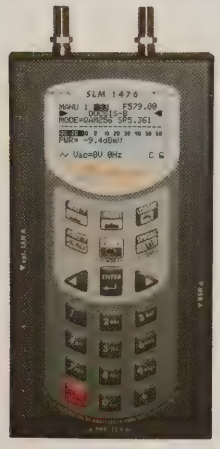
- Light-weight, easy-to-use RF adapter for tuning to any
- UHF/VHF channel in the 50 to 860 MHz range
- Record MPEG2 Transport Stream directly to a laptop PC for easy field recording
- Full portability that requires no additional power supply or batteries, the DTU-235 operates entirely from a USB-2 connection
- Sensitive front-end allowing reception of RF signals from -25 to +50 dBmV

The DTU-235 can be combined with Sencore's RFXpert software for a truly powerful RF measurement tool. RFXpert provides easy-to-read spectral displays, both constellation and eye diagram displays.

- True demodulated digital reading for MER, Pre-BER, Post BER and EVM
- A proof-positive method of signal documentation or drop-point comparisons with programmable, user defined logging and auto-inspection capabilities.

Adding StreamXpert to a DTU-235 makes for a cost-effective and user friendly MPEG2/H.264 transport stream analyzer. RF inputs of the DTU-235 and can be validated against industry standard ETR101-290 templates. Transport streams can also be captured in the field with StreamXpert for later use.

- Real-time analysis, monitoring and recording of MPEG2/H.264
- PCR Accuracy and ETR101-290 checking
- Integrated MPEG2 video and audio decoding with AC3 and Dolby Digital+ Support



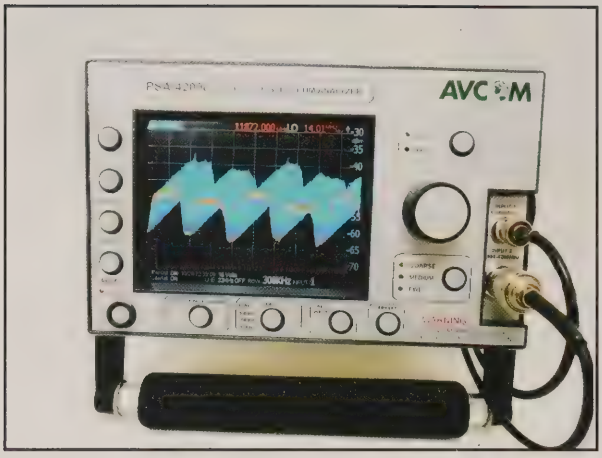
SLM 1476CM

Handheld QAM / 8VSB / DOCSIS 2 Signal Meter

The SLM 1476CM provides everything installers and operators are looking for in a signal level meter. Capable of analog and digital measurements, including Pre/Post BER, MER, Spectral Display, DOCSIS 2.0 Network Testing, and Leakage and Ingress Testing capabilities all at an affordable price. Designed to easily test multiple DOCSIS channels. The SLM 1476 provides a pass/fail test which can be logged.

- CATV installation and troubleshooting
- Off-air 8VSB reception broadcast footprint quality
- Private cable systems in schools, corporate campuses, correctional institutions and medical centers, anywhere RF is used
- Custom home theater installation and calibration

AVCOM Of Virginia Inc.



PSA-4200C

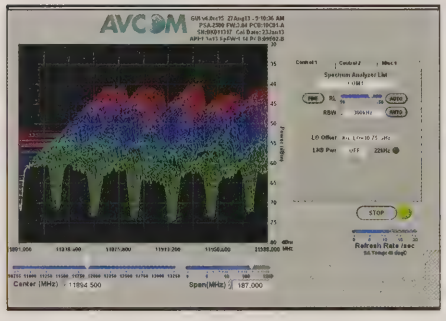
Portable 4.2 GHz Spectrum Analyzer

- Designed for satellite, TV and radio broadcasting, CATV, wireless, TCSM, and GPS
- L.O. frequency offsets displays direct frequency readout
- 10 customizable presets/50 user memory locations
- Fast refresh rates up to 13/sec
- 13/18Vdc/22kHz LNA/LNB power
- Easy-to-use front panel interface, even when wearing bulky gloves.
- Full remote control monitoring via Ethernet/RS-232 using free remote control software
- Options include carrying case, extended amplitude range solutions, down converters for extended frequency coverage, and LNB power

PSA Series

Portable 2.5 GHz & L-Band Spectrum Analyzer

- Designed for satellite, TV and radio broadcasting, CATV, wireless, TCSM, and GPS
- L.O. frequency offsets displays direct frequency readout
- 10 customizable presets/50 user memory locations
- Fast refresh rates up to 13/sec
- 13/18Vdc/22kHz LNA/LNB power
- Easy-to-use front panel interface, even when wearing bulky gloves.
- Full remote control monitoring via Ethernet/RS-232 using free remote control software
- Up to 2 customizable inputs available
- Options include carrying case, extended amplitude range solutions, down converters for extended frequency coverage, and LNB power



Versatile Remote Control Software for PSA/PSA-4200C

The PSA can be monitored and controlled both locally from the front panel and remotely using the Avcom Remote Control Software via serial port or Ethernet. The Remote Control Software has an intuitive user interface that is easy to use with no special training required. It allows remote monitoring and control from your network or over the internet. Features include screenshot capture recording, SMNP for alarm/monitoring, markers, cross-polling and Automated Data Acquisition (DAQ) with tolerance comparison and integrated email alerts, to name a few. Up to twelve windows can be displayed at one time. The GUI is capable of saving and recalling an unlimited number of screenshots and integrates with the PSA to upload or download saved waveforms from the analyzer's internal user memory locations. The Remote Control Software is available for Windows, Mac, and Linux.

APPLIED INSTRUMENTS, INC.
TELECOMMUNICATIONS INSTRUMENTATION

SAT BUDDY

Satellite Signal Level Meter

FEATURES

- Economical and easy to use
- Rugged metal enclosure
- Compact, weather resistant design
- Internal rechargeable battery
- Strong audible tone, allowing dish alignment by sound
- Bright LED display, easy to read even in direct sunlight
- Sat Buddy and LNB can be powered from battery or IRD
- 12 month limited warranty

MEASUREMENTS

- Signal strength (RF energy 950 to 2150 MHz)
- LNB current draw (mA)
- Voltage supplied by set top IRD
- Internal battery voltage

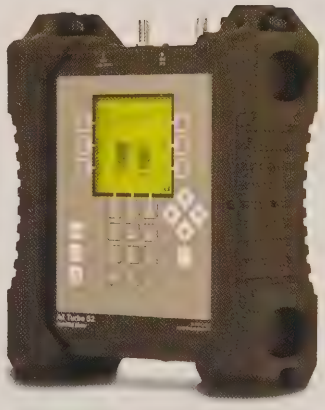
STANDARD ACCESSORIES

- Carrying case with belt clip
- Wall transformer for battery charging, 120 V std., 240 V avail.
- Cigarette lighter adapter for battery charging

SUPER BUDDY

Satellite Signal Level Meter

- ID the satellite by “align-to-lock” or “automatic scan”
- Positive ID multi-lock algorithm eliminates false positives
- Field replaceable connectors
- Rugged durable aluminum case with rubber shock guards
- Geo-sensitive “Field Guide” software stores all satellites and transponders per region
- Zip code or Lat/Long entry provides antenna azimuth, elevation and tilt/skew settings for all satellites
- Controls multi-LNBs/switches with 22kHz/DiSEqC
- Large back-lit graphic LCD
- Easy to use single function front panel buttons
- Displays cross-pol value from HughesNet Ku Band modems
- Able to manually enter new satellites using front panel keypad
- Audible tone for signal lock and peak
- Quick charge battery with universal AC or vehicle 12 VDC
- Computer interface for future upgrades
- Store measurements for proof-of-performance “POP Scan”
- Pass/Fail for key transponders “Limit Scan”
- LOCKs on new multi-rate / ACM signal style used by WildBlue and Telesat/Xplornet



AI Turbo S2

DVB-S2 Satellite Signal Level Meter

- Satellite ID by "align-to-lock" or "automatic scan"
- ID multi-lock algorithm eliminates false positives
- Powers LNBs and multi-switches
- Use for L, C, X, Ku, or Ka band applications
- High sensitivity assures alignment optimization
- Field replaceable type F barrel connectors
- Durable aluminum case with rubber schock guards
- Geo-sensitive "Field Guide" software database stores all compatible satellites and transponders using front panel keypad
- Audible tone for signal lock or peak
- Store measurements for Proof-of-performance reporting
- "Limit Scan" Pass/Fail for key transponders
- Back-lit graphic LCD screen
- Numeric keypad with arrow key controls
- Rechargeable / Replaceable Li-ion battery
- Quick change battery with universal AC or vehicle 12 VDC
- Operates while charging via AC
- USB computer interface for firmware updates
- Displays antenna settings (Az/El/Skew) based on user's postal code or latitude and longitude coordinates

CST-59611

Self contained, 1 piece tool for preparation of coaxial drop cables, for installation of "F" connectors.

- Strips RG-59 and RG-6 ($^1/_4$" x $^1/_4$")
- Strips RG-7 and RG-11 ($^1/_4$" x $^5/_{16}$")
- Fast, easy, one-step operation
- Repeatable accurate cable preparation
- Integral stop for proper center conductor length
- V-notched blade eliminates damage to center conductor
- Easily replaceable blade cartridges
- Bright yellow body makes it easy to find
- Rugged nylon construction

CST-596

Coax Strip Tool RG-59 and RG-6

- Prepares Cable to Proper Dimensions
- Notch in Blade to Prevent Damage to Copper on Center Conductor
- Adjustable Blade Depth for Standard / Tri / Quad Shield Cables
- Replaceable Blades (Part #CST-596BL)

HX-596

Hex Crimp Tool RG-59 and RG-6

- .262" and .324" Hex Sizes
- Hardened Steel Jaws
- Compression Adjustment

HX-596Q

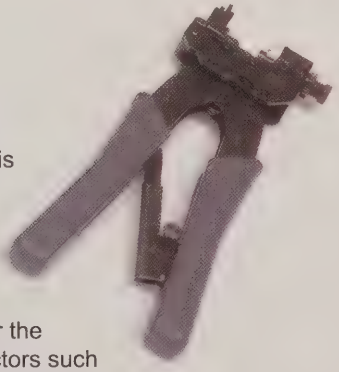
Hex Crimp Tool RG-59, RG-6, and RG-11

- 100", .324", and .495" Hex Sizes
- Hardened Steel Jaws
- Compression Adjustment

PT-1 Pocket Toner

The Pocket Toner is a simple, easy to use tool to "ring out cables". By attaching the battery section to either a male or female F connector of the cable you are trying to trace or identify, and then fitting the smaller "buzzer" piece to any cables where you think your cable terminates, you will identify the correct cable when the buzzer sounds.

- Machined Aluminum Construction
- Plated Brass Fittings
- Battery LED, 12 Volt A23 Battery
- Pocket Clip

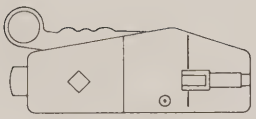


CCT-596

Compression Crimp Tool

This adjustable compression tool is designed to install most of the industry Compression type F Connectors. With an adjustable plunger assembly, it is easy to adjust this tool for the proper compression distance required for the different RG-59 and RG-6 connectors such as SNAP-N-SEAL by T&B, EZF by Raychem, TAC and ULTRASEAL by Gilbert as well as others. The ratchet feature ensures complete compression of the connector.

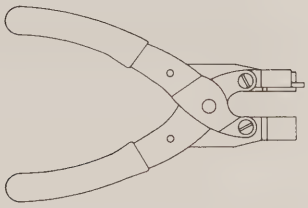
BELDEN
SENDING ALL THE RIGHT SIGNALS



SNSUTL

Ordering Information

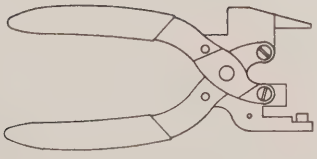
CATALOG NUMBER	DESCRIPTION	USE	INNER PACK	OUTER PACK
IT1000	Strips & Installs	Series 59, 59QS, 59HEC, 6, 6QS	1	100
IT10002	Replacement Blade Cassette	IT1000	1	300



SNSUTL

Ordering Information

CATALOG NUMBER	DESCRIPTION	USE	INNER PACK	OUTER PACK
SNSUTL	Installs, Non-Ratchet	Series 59, 59QS, 59HEC, 6, 6QS, BNC, RCA	1	50



L3011B

Ordering Information

CATALOG NUMBER	DESCRIPTION	USE	INNER PACK	OUTER PACK
L3011B	Installs	Series 7, 7QS, 11, 11QS, 320QR	1	50

Cablematic® CABLE PREPARATION TOOLS

CR

Hex Crimp Tool

- For CATV, MATV and STV type cable hex crimp connectors
- Precision quality alloy steel jaws are self-bottoming and will not over-crimp
- Toggle action delivers correct crimping force
- Rugged components for long, trouble-free performance
- Star wheel permits precise, easy compression adjustment
- Easy-to-read hex sizes stamped on frame
- Full-cushion handles will not slide off
- Rugged steel frame with heat treated pins for maximum strength and operating life
- Made in the U.S.A.
- Length: 9.00 in. (229 mm)
- Weight: 1 lb 9 oz (708 g)

ORDERING GUIDE FOR CR TOOLS

CATV / MATV / STV CABLES

Model	Hex Size (inch)	Hex Size (mm)	Contact Hex (inch)	Contact Hex (mm)	Contact Hex (inch)	Contact Hex (mm)
CR 211CX (Part# 33315)	.475	12.07	.096	2.43	-	-
CR 41Q (Part# 33275)	.453 / .315	11.15 / 8.00	-	-	-	-
CR 42Q (Part# 33285)	.320/.250	8.13/6.35	-	-	-	-
CR 470/410 (Part# 35460)	.470 / .410	11.94 / 10.41	-	-	-	-
CR 596B (Part# 33320)	.324 / .262	8.23 / 6.65	-	-	-	-
CR 596Q (Part# 33330)	.384 / .324	9.75 / 8.23	-	-	-	-
CR 596QL (Part# 33335)	.360 / .324	9.14 / 8.23	-	-	-	-
CR 596-11 (Part# 33343)	.410 / .324	10.41 / 8.23	-	-	-	-
CR 611Q (Part# 33805)	.475 / .324	12.07 / 8.23	-	-	-	-
CR 611QL (Part# 34475)	.470 / .324	11.94 / 8.23	-	-	-	-
CR 611Q2 (Part# 34485)	.475 / .324	12.07 / 8.23	.100	2.54	-	-
CR 611U (Part# 34930)	.475 / .360	12.07 / 9.14	.096	2.43	-	-

COMMUNICATION CABLES

Model	Hex Size (inch)	Hex Size (mm)	Contact Hex 1 (inch)	1 (mm)	2 (inch)	2 (mm)	3 (inch)	3 (mm)
CR 255U (Part# 33975)	.255 / .213	6.48 / 5.41	.100	2.54	.068	1.73	.050	1.27

C.A.T.-AS "All Series"

Compression Assembly Tool

- Unique C.A.T. allows assembly of Series 59/6, 7, and 11 drop connectors in one versatile tool
- Two sets of jaws, precision designed – one set for 59 & 6 connectors, and another set for 7 & 11 connectors
- Field proven design based on original Cablematic® C.A.T. design with high strength cast aluminum body
- Spring loaded, split jaws position the cable and connector for easy insertion and removal
- Available in a "fixed" model (C.A.T.-AS-FX) with a fixed, factory set plunger tip that is non-adjustable.
- Made in the U.S.A.
- U.S. Patent Nos.: 5,934,137; 5,647,119 and 6,820,326
- Length: 7.4 in. (187 mm)
- Weight: 1.1 lb (500 g)

For 6/59, 7 and 11 cables

C.A.T.-AS COMPRESSION ASSEMBLY TOOLS

CAT-AS Model	6/59 SERIES	7 SERIES	11 SERIES	Plunger Tip Color Code
C.A.T.-AS (Part# 37720) & C.A.T.-AS-FX (Part# 37835)	Arris-Digicon DS & DT™ Belden SNAP-N-SEAL® Corning Cabelcon-CX3 Corning Gilbert F-UE, F-UE-M Corning Gilbert ULTRARANGE™ Corning Gilbert ULTRASHIELD™ F-Conn-FS Holland SLC PCT-DRS PPC CMP, PPC-EX XL TFC QCII	Arris-Digicon DS & DT™ Belden SNAP-N-SEAL® Corning Gilbert ULTRASEAL™ PPC-EX	Belden SNAP-N-SEAL® Corning Cabelcon-CX3 Corning Gilbert ULTRARANGE™ Corning Gilbert ULTRASEAL™ Corning Gilbert ULTRASEAL™ 320 QR PCT-DRS, PCT-DRS-320QR PPC-EX, PPC-EX320QR TFC QCII	Green
C.A.T.-AS-EX (Part# 37780)	PCT-TRS PPC-EX, PPC-CMP-NC	PCT-TRS PPC-EX	Corning Gilbert ULTRARANGE™ Corning Gilbert ULTRASEAL™ 320 QR	Black
C.A.T.-AS-DIGICON (Part# 37785) & C.A.T.-AS-DIGICON-FX (Part# 37845)	Arris-Digicon DS & DT™ Corning Cabelcon-CX3 Corning Gilbert F-UE, F-UE-M Corning Gilbert ULTRARANGE™ Corning Gilbert ULTRASHIELD™ F-Conn-FS Holland SLC PCT-DRS PPC-CMP, PPC-EX XL TFC QCII	Arris-Digicon DS & DT™	PCT-DRS, PCT-DRS-320QR PPC-EX, PPC-EX320QR Arris-Digicon DS & DT™ TFC QCII	Gray
C.A.T.-AS-IEC/ RCA-FX (Part# 37830)	Arris-Digicon DS & DT™, DS-RCA Belden SNAP-N-SEAL® Corning Cabelcon-CX3 Corning Cabelcon-CX3-IECF Corning Cabelcon-CX3-IECM Corning Gilbert F-UE, F-UE-M, RCA-UE, RCA-UE-M Corning Gilbert ULTRARANGE™ Corning Gilbert ULTRASHIELD™ F-Conn-FS, F-Conn-FSC Holland SLC PPC-EX XL, PPC-CMP, PPC-CMP-RCA, PPC-CMP-IEC PCT-DRS, PCT-DRS-IECF PCT-DRS-IECM TFC QCII	Arris-Digicon DS & DT™ Corning Gilbert ULTRASEAL™ PPC-EX Belden SNAP-N-SEAL®	Belden SNAP-N-SEAL® Corning Cabelcon-CX3 Corning Gilbert ULTRARANGE™ Corning Gilbert ULTRASEAL™ Corning Gilbert ULTRASEAL™ 320 QR PCT-DRS, PCT-DRS-320QR PPC-EX, PPC-EX320QR	

RLN

Long Nose Pliers

- Designed for general-purpose electrical, communications and construction applications
- Drop-forged, hardened and tempered steel alloy, designed to stand up to rugged use
- Soft ribbed molded grips for maximum comfort and durability
- Unique torsion spring for one handed operation (spring can be easily removed if preferred)
- Tool halves are perfectly matched and hot riveted providing smooth handle operation
- Ideal for cutting and working with small soft-core wire gauges in small confined areas
- Length: 8.5 in. (216 mm)
- Weight: 8oz (227 g)
- Part No.: 35489

CT-375

Carpet Cutter & Drill Guide

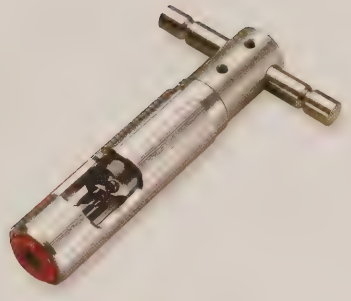
- For making fast and precise holes in carpeting
- CT-375 is for wood underfloors (scalloped edge cutter) Part No.: 33480
- CT-375C is for concrete and other underflooring (smooth cutter) Part No.: 33485
- Replacement Blades: Scalloped Part No.: 33483 Smooth Part No.: 33482
- Made in the U.S.A.
- Length: 3.0 x 6.375 in (76 x 162 mm)
- Weight: 15 oz (426 g)

Detailed Information On Products, Please Visit Our Website www.tonercable.com

Toner Cable Equipment, Inc. 800-523-5947
• Phone 215-675-2053 • Fax: 215-675-7543 • info@tonercable.com • www.tonercable.com

Cablematic CABLE PREPARATION TOOLS

CST



CST Coring & Stripping Tools

- Combination tool cores and strips in one fast and precise operation
- Manual or drill operation: CST tools have a standard "T" handle with a built-in 3/8" (9.5mm) drill adapter; CST-R tools have a ratchet "T" handle and a separate 3/8" (9.5mm) drill adapter
- Heat treated sheath cutting blade produces a smooth beveled edge and can be replaced without the expense of replacing the entire coring bit
- Spiral-fluted, heat-treated steel coring bit
- Rugged, durable, all-metal construction
- Strip stops available for exact stripping lengths of 0.50 to 2.00 inch (12.7 to 50.8mm)
- Color coded cable guide sleeves for easy cable size identification
- Use of CC-100 Center Conductor Cleaner removes residual dielectric which remains on the conductor after coring and stripping
- Length: 6.88" (175mm), Weight: 1 lb 10 oz (738g)

CST

COMM/SCOPE P1, P3 and Cable Guard Cable; TIMES FIBER T4, T4Plus, T6, T10 Cable

Cable	Standard Tool	Ratchet Tool	Coring Bit Kit	Guide Sleeve	Sleeve Color
412	CST 412	CST 412-R	CB 114K	29104	Black
500	CST 500	CST 500-R	CB 115K	29105	Red
625	CST 625	CST 625-R	CB 116K	29106	Blue
750	CST 750	CST 750-R	CB 117K	29111	Green
875	CST 875	CST 875-R	CB 118K	29112	Yellow
1000	CST 21000	CST 21000-R	CB 156K	29113	Orange

SCIENTIFIC ATLANTA Cable Flex Cable

Cable	Standard Tool	Ratchet Tool	Coring Bit Kit	Guide Sleeve	Sleeve Color
375	CST 375CX	—	CB 128	—	—
412	CST 412CX	CST 412CX-R	CB 125K	33361	Black
500	CST 500CX	CST 500CX-R	CB 115K	31153	Red
625	CST 625CX	CST 625CX-R	CB 116K	33363	Blue
750	CST 750CX	CST 750CX-R	CB 117K	33362	Green
875	CST 875CX	CST 875CX-R	CB 118K	33364	Yellow

TIMES FIBER TX Cable

Cable	Standard Tool	Ratchet Tool	Coring Bit Kit	Guide Sleeve	Sleeve Color
565	CST 565TX	CST 565TX-R	CB 145K	29108	Red
700	CST 700TX	CST 700TX-R	CB 137K	33847	Blue
840	CST 840TX	CST 840TX-R	CB 138K	29109	Green
1160	CST 21160TX	CST 21160TX-R	CB 158K	33847	Neutral

QCST

Quick Change Coring & Stripping Tool

- ALL-IN-ONE, accurately strips the jacket, cores out the dielectric, strips and bevels the aluminum sheath
- NEW DESIGN conveniently attaches the jacket stripper body (QJST) to the main body of the coring and stripping tool by means of a "QUICK-CHANGE" rotating body ring
- QJST color coded JACKET STRIPPING BODY is removed and used in a 2 step operation when using flooded cables
- Manual or Drill operation; QCST tools have a standard "T" handle with a built-in 3/8" (9.5mm) drill adapter; QCST-R tools have a Ratchet "T" handle and a separate 3/8" (9.5mm) drill adapter
- Rugged, durable, all-metal construction
- Heat treated sheath cutting blade produces a smooth beveled edge and can be replaced without the expense of replacing the entire bit

QCST

COMM/SCOPE P3 Cable; TIMES FIBER T10 Cable

Cable	Standard Tool	Ratchet Tool	Coring Bit Kit	Guide Sleeve	Sleeve Color
412	QCST 412 T	QCST 412T-R	CB 114K	29104	Black
500	QCST 500 T	QCST 500T-R	CB 115K	29105	Red
625	QCST 625 T	QCST 625T-R	CB 116K	29106	Blue
750	QCST 750 T	QCST 750T-R	CB 117K	29111	Green
875	QCST 875 T	QCST 875T-R	CB 118K	29112	Yellow
1000	QCST 21000 T	QCST 21000T-R	CB 156K	29113	Orange

TIMES FIBER TX and COMM/SCOPE P3 Cable

Cable	Standard Tool	Ratchet Tool	Coring Bit Kit	Guide Sleeve	Sleeve Color
565	QCST 565	QCST 565-R	CB146K	29108	Red
700	QCST 700	QCST 700-R	CB137K	33847	Blue
840	QCST 840	QCST 840-R	CB138K	29109	Green
1160	QCST 21160	QCST 21160-R	CB158K	33837	Neutral

Accessories for QCST Tools (*Quick-Change* — ALL-IN-ONE)

Cable	Ratchet Handle	Drill Adapter	Sheath Cutting Blade	Jacket Stripping Blade
412-840	31250	31230	CB 60	CB 6667
860-1080	31275	31235	CB 60	CB 6667
1160	31275	31235	CB 26	CB 6667

- Spiral-fluted, heat treated steel bit
- U.S. Design Paten applied for
- Made in the U.S.A.
- Length: 8.1" (205.7mm), Weight: 1 lb 4 oz (525g)

Cablematic® CABLE PREPARATION TOOLS

TXFF, TXFF-Q

Flexible Feeder Stripping Tools

- For Times Fiber Communications (TFC) "Flexible Feeder" (TX10-15 Low Loss Drop Feeder) Cable and F50 CommScope® cable
- Color coded and labeled for ease of proper tool identification
  Green - for Standard cable construction
  Blue - for Quad Shield cable construction
- The first cut (1st cut) will prepare cable to proper center conductor length. The second cut (2nd cut) will remove the proper length of outer jacket exposing the braid
- Made in the U.S.A.
- Replacement Blades — 1st cut: CB 26 (Part No.: 14403)
  2nd cut: CB 60 (Part No.: 14907)
- Length: 5-3/8 in. (137 mm)
- Weight: 1 lb. 12 oz. (795 g)

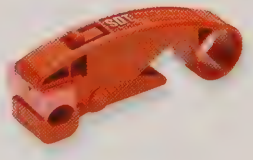
Model	Color	Cable	Connector	Part No.
TXFF-C	Green	Standard + Tri shield	Corning Cabelcon	36635
TXFF-QC	Blue	Quad	Corning Cabelcon	36634
TXFF-A/G	Green	Standard + Tri shield	Amphenol & Corning Gilbert	36637
TXFF-QA/G	Blue	Quad	Amphenol & Corning Gilbert	36636
TXFF-P	Green	Standard + Tri shield	PPC & PCT	36639
TXFF-QP	Blue	Quad	PPC & PCT	36638

Note: Please call our Customer Service Department for connector manufacturers not listed above. U.S: 860-635-2200
U.K: +44-1384-400070

SDT-TXFF-250

Flexible Feeder Single Drop Trimmer

- Single Drop Trimmer for Times Fiber Communications (TFC) "Flexible Feeder" (TX10-15 Low Loss Drop Feeder) Cable and F50 CommScope® cable
- ONE STEP cable preparation for smooth, precise cuts removing both the jacket and the dielectric
- Prepares cable for all major connector manufacturers to 1/2 in. or 1 in. (12.7 or 25.4 mm) center conductor length and 1/4" (6.35 mm) braid preparation
- Ergonomic, lightweight design
- Made in the U.S.A.
- U.S. Patent Nos.: 6,128,976 and 6,253,641
- Replacement blade cartridge: RC-TXFF 250 (Part No.: 36880)
- Length: 4.6 in. (119 mm)
- Weight: 1.9 oz (54 g)
- Part No.: 37460



CC SERIES

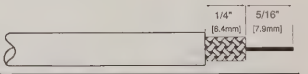
Center Conductor Cleaners / Scrapers

- For removing residual dielectric from the conductor of all sizes of trunk and distribution cables (without scratching or nicking)
- **CC-100** has clear Plexiglas® multiple size V-shaped cleaning notches (Part No.: 16710)
- **CC-200** is supplied with clear Plexiglas® straight edged scraping blades (Part No.: 16730)
- **CC-200 EUR** is supplied with inverted clear Plexiglas® straight edged scraping blades. Removes dielectric close to aluminum sheath (Part No.: 42000)
- "High visibility" red (CC-100) and yellow (CC-200) tool bodies
- Replacement cleaning blades fit either tool
  Part No.: 16722, multiple "V" notched blade kit
  Part No.: 16725, clear Plexiglas® scraping blade kit
  Part No.: 42003, clear Plexiglas® EUR scraping blade kit
- Made in the U.S.A.
- Length: 4.25 in. (108 mm)
- Weight: 2.26 oz (64 g)

SDT

Single Drop Trimmer

- **ONE STEP** cable preparation for ALL 59, 6, N48 drop cable constructions as per SCTE and Bellcore specifications
- Also available with a built-in strip stop — see model SDT596-250SS (SDT596-250 is standard tool)
- **ERGONOMIC BODY DESIGN** fits into your hand and tool pouch for ease of use and comfort
- Tool body constructed of **LIGHTWEIGHT**, impact resistant "Hi-Visibility Red" polymer
- No adjustments or extra tools required
- **NOTE: Tool is not intended for Plenum Series Cable construction**
- Superior quality tool steel blade cassettes will perform 3500+ preparations under normal use
- Tool supplied with model specified cassette assembled in tool and one spare cassette
- Unique "Cassette Ejector" provides quick blade cassette removal
- Replaceable blade cassettes are color-coded and marked with cable series type and braid preparation dimensions for easy identification
- Made in the U.S.A.
- U.S. Patent Nos.: 6,128,976 and 6,253,641
- Length: 4.6 in. (119 mm)
- Weight: 1.6 oz (45 g)



SINGLE DROP TRIMMER GUIDE

For .250 (1/4") 6.4 mm Cable Preparation

Model	Drop Cable Series	Replacement Cassettes	Color
SDT596-250 (Part# 36700)	59, 6, Std. Tri & Quad, N48	RC596-250 (Part# 35241)	Red
SDT596-250SS (Part# 36700-1)	59, 6, Std. Tri & Quad, N48	RC596-250 (Part# 35241)	Red
SDT7-250 (Part# 36701)	7 Std. Tri & Quad	RC7-250 (Part# 35242)	Green
SDT11-250* (Part# 36702)	11 Std. Tri & Quad	RC11-250 (Part# 35243)	Black
		RC11Q-250 (Part# 35244)	Gray
SDT EUR (Part# 42006)	59, 6, Std. Tri & Quad, N48, Coax 9	RCEUR-250 (Part# 42004)	Orange
SDT Coax 9 (Part# 36733	Coax 9	RC9-250 (Part# 36739)	Green

*SDT model supplied with 11 (Black) cassette for use on 11 standard and Tri Shield cable and 11Q (gray) cassette for use on 11 Quad Shield cable.

CT2-AS
Compression Assembly Tool

- The CT2-AS assembles 59,6,7 and 11 "F" compression type connectors
- Assembles most RCA and IEC connectors
- Spring loaded handle with push button handle lock to keep tool compact and pouch friendly
- New ergonomic design with premium quality construction
- Easy to use around and in wall boxes where space and cable length may be limited
- Spring loaded split jaws position cable and connector for easy insertion and removal
- Tool requires no special adjustment or adapters and can be kept in calibration with a supplied guage block
- CT2-AS has a blue color coded body for universal type connectors; CT2-AS-EX has a red colored body for PPC-EX and PCT-TRS compression connectors
- US Patent Nos.: 5,934,137; 5,647,119; 6,820,326
- Length: 8-1/4 in. (210 mm)
- Weight: 14.4 oz (408 g)
- Part No. CT2-AS: 42080; Part No. CT2-AS-EX: 42090

Model	6/59 Series	7 Series	11 Series
CT2-AS (Part # 42080)	Arris Digicon DS,DT,DSU, DS-RCA, DS-RCA Mini Belden SNAP-N-SEAL® Corning Cabelcon CX3, CX3-IEC-F, CX3-IEC-M Corning Gilbert F-UE, F-UE-M, RCA-UE, RCA-UE-M Corning Gilbert ULTRARANGE™ Corning Gilbert ULTRASHIELD™ F-Conn FS, FSU, FS-RCA Holland SLC PCT-DRS, PCT-DRS-IECF, PCT-DRS-IECM PPC-CMP, PPC-EX-XL, PPC-CMP-RCA, PPC-CMP-IEC TFC QCII	Arris Digicon DS & DT™ Belden SNAP-N-SEAL® Corning Gilbert ULTRASEAL™ PPC-EX	Belden SNAP-N-SEAL® Corning Cabelcon CX3 Corning Gilbert ULTRARANGE™ Corning Gilbert ULTRASEAL™ Corning Gilbert ULTRASEAL™ 320QR PCT-DRS, PCT-DRS-320QR PPC-EX, PPC-EX-320QR TFC QCII
CT2-AS-EX (Part # 42090)	PCT-TRS PPC-EX, PPC-CMP-MC	PCT-TRS	Belden SNAP-N-SEAL® Corning Gilbert ULTRARANGE™ Corning Gilbert ULTRASEAL™ 320QR Corning Gilbert ULTRASEAL™ PCT-DRS, PCT-DRS-320QR PPC-EX, PPC-EX-320QR

IT-F59, 6, 11
"F" Connector Insertion and Flaring Tool Combo

- For insertion of 59, 6, 7, & 11 series "F" connectors
- Makes "F" connector insertion fast and easy even in cold temperatures
- Flaring end of tool allows flaring or expansion of the cable providing easier insertion of "F" connectors
- Recommended for polyethylene jacketed cables and plenum cables
- Especially useful when using tri-shield and quad-shield cables
- Insures proper connector and cable interface
- Large plastic screwdriver-type handle provides leverage when inserting "F" connector to the drop cable
- Heat treated shank
- Made in the U.S.A.
- Length: 5.00 in (127 mm)
- Weight: 3.5 oz (99 g)

Model	Description	Part No.
IT-F59, 6, 11-FT6	"F" Insertion and 6 Series Flaring Tool Combo	38820
IT-F59, 6, 11-FT59	"F" Insertion and 59 Series Flaring Tool Combo	38821

DCS Drop Cable Slitter

- Designed to slit the web on 59, 6, 7, & 11 series messengered and dual cables in the following cable configurations:
  - Messengered coaxial drop cable
  - Dual coaxial drop cable
  - Dual coaxial messengered drop cable
  - Dual coaxial and twisted pair cable
  - Dual messengered coaxial and twisted pair cable
  - Will also slit various messengered fiber drop cables
- Provides a clear view of slitting action
- Works on PVC and Polyethylene jackets
- Built-in saddle and spring loaded jaw permits easy positioning of cable
- Built-in shaving blade removes residual ridge material allowing easy connectorization
- No blade adjustments required
- Ergonomic, user-friendly design
- Lightweight and compact, fits in the palm of your hand for easy one hand operation
- High visibility red color
- Made in the U.S.A.
- Replacement Blades —
  Slitting: CB 209 (Part No.: 36343)
  Shaving: CB 210 (Part No.: 36344)
- Length: 2.75 in. (70 mm)
- Weight: 5 oz (140 g)
- U.S. Patent No.: 6,131,289
- Part No.: 36340

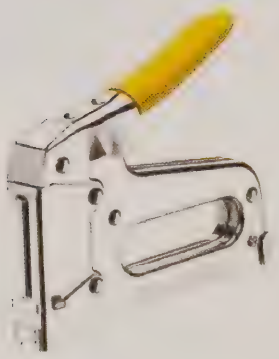
CC, CCS
Cable Cutters / Strippers

- Designed to cut and strip solid & stranded copper and aluminum conductor
- CCS-22 designed to cut steel conductors
- Designed to minimize flattening of the cable end and center conductor
- CCS-22 ideal for cutting 59, 6, 7 and 11 series coax cables (copper cladded steel center conductors) as well as N48, 5C and 9 Coax cables (copper center conductors) up to .400 in. (10.16 mm) O.D. cables
- Preformed rounded jaws automatically position the cable for optimum cutting
- Precise, high quality carbon steel construction
- Durable, dipped non-slip handles

Application	Model	MAX OD (in.)	AWG	Tool Length	Tool Weight
Cutting	CC22 (p/n 39430) CC38 (p/n 39431)	.350 (107 mm) .430 (131 mm)	1 2/0	6-3/8 in. (16.2 cm) 8-1/4 in. (21.0 cm)	6 oz (170 g) 10.4 oz (296 g)
Stripping	CC22 (Part# 39430) CC38 (Part# 39431)	.230 (70 mm) .290 (88 mm)	4 2	6-3/8 in. (16.2 cm) 8-1/4 in. (21.0 cm)	6 oz (170 g) 10.4 oz (296 g)

Application	Model	Maximum Cable O.D.	Tool Length	Tool Weight
Cutting Steel*	CCS-22 (p/n 39930)	up to .400 in. (10.16 mm)	6-3/8 in. (16.2 cm)	6 oz (170 g)

*CCS = Copper cladded steel



- *All-steel construction*
- *Grooved driving blade*
- *Patented, jam-proof mechanism*
- *Short-Span, easy compression handle*
- *Chrome Finish*
- *Grooved guide*

For the Pro or the Do-It-Yourselfer

Safety, speed and efficiency are built-in performance factors that have made Arrow Staple Gun Tackers the preferred fastening tools of professional wire and cable installers in every field. 5 precision-made Arrow models, using a total of 15 different staple sizes, fit a wide range of wire and cable diameters for safer, snugger and neater fastening. Ideal for installing: Telephones, TV, Cable, Intercom and Burglar Alarm Systems. Also Hollow Tubing, Radiant Heat Cable and virtually any application of wire.

T18™ Loads (85) T18 staples with 3/16" crown-divergent point of .050 wire in 3/8" and 7/16" leg lengths. Improved to drive tightly on new thin telephone wire.

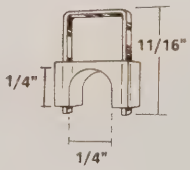
T25™ Loads (85) T25 staples with 1/4" crown-divergent point of .050 wire in 9/32", 3/8", 7/16" and 9/16" leg lengths.

T37™ Loads (85) T37 staples with 3/8" crown-divergent point of .050 wire in 3/8", 1/2" and 9/16" leg lengths.

T75™ Loads (53) T75 staples with 1/2" crown-divergent point of 0.75 wire in 9/16", 5/8" and 7/8" leg lengths.

T59™ Loads (30) 5911 insulated chisel-point staples with 11/16" leg length. Insulators have inner dimensions from 1/4" x 1/4" to 5/16" x 5/16". #5911 type Insulated Staples are specially coated to triple their holding power.

7C90 UL LISTED



STAPLE LEG LENGTH		T18	T25	T37	T75
		FOR WIRES UP TO			
		3/16"	1/4"	5/16"	1/2"
	9/32" (7mm)		∩		
	3/8" (10mm)	∩	∩	∩	
	7/16" (11mm)	∩	∩		
	1/2" (12mm)			∩	
	9/16" (14mm)		∩	∩	∩
	5/8" (16mm)				∩
	7510S 5/8" (16mm) LISTED 7C90 UL C UL To U.S. & Canadian Safety Standards				∩
	7/8" (22mm)				∩
	7514S 7/8" (22mm) LISTED 7C90 UL C UL To U.S. & Canadian Safety Standards				∩

Selected staples available in Monel, Stainless Steel & Beige

7C90 UL LISTED

INSULATED STAPLES FOR MODEL T59™

11/16" LEG LENGTH	INSULATOR INNER DIMENSION	FOR WIRES UP TO 3/16"	1/4"	5/16"
	(A) 1/4" x 1/4"			
	(A) 1/4" x 5/16"			
	(B) 5/16" x 5/16"			

(A) Insulator available in clear or black.
(B) Insulator available in black only.

Toner Cable Equipment, Inc. 800-523-5947
• Phone 215-675-2053 • Fax: 215-675-7543 • info@tonercable.com • www.tonercable.com

JONARD INDUSTRIES CORP.

CM-8

Cable Mapper & Toner

Pocket Toner Does 8 Different Cables At One Time

- Eight numbered & color coded cable identifiers
  #1 White, #2 Red, #3 Black, #4 Blue,
  #5 Green, #6 Yellow, #7 Purple & #8 Brown
- Two alligator clip sets
  - 1x F-Male coax adapter
  - 1x F-Female coax adapter
- Built-in toner generator
- Auto power off 30 minutes in "Tone" mode
- Test for opens and shorts
- Auto power off 12 seconds after Pass/Fail results
- Maximum cable length for testing 5,000 feet
- Powered by two 3V CR2032 batteries
- Low battery warning light
- Maximum DC cable resistance100 Ohms
- Live voltage detection

HOLLOW SHAFT NUT DRIVERS

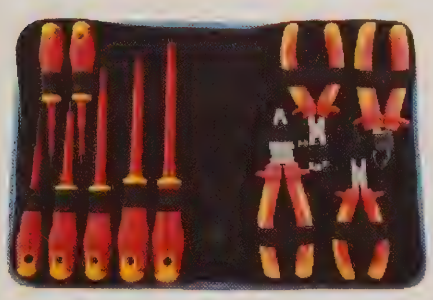
These are full length hollow shaft nut drivers intended for working with long bolts. They are designed with cushion gripped ergonomic color coded handles. Handles provide greater torque and user comfort. Overall length 7"

JONARD P/N	DESCRIPTION
ND-631	Nut Driver Set – 7 Piece 3/16", 1/4", 5/16", 11/32", 3/8", 7/16" & 1/2"
ND-630316	Nut Driver 3/16" (Black)
ND-63014	Nut Driver 1/4" (Red)
ND-630516	Nut Driver 5/16" (Yellow)
ND-6301132	Nut Driver 11/32" (Green)
ND-63038	Nut Driver 3/8" (Blue)
ND-630716	Nut Driver 7/16" (Brown)
ND-63012	Nut Driver 1/2" (Red)
ND-SET4	Nut Driver Set 4 piece, 1/2", 11/32", 3/8", 5/16"

INSULATED TOOLS

Jonard Insulated Tools are manufactured to IEC 60900 Standards for hazardous work environments. Our tools are tested to 10,000 VAC and rated for 1,000 VAC live use.

TK-110INS



JONARD P/N	DESCRIPTION
TK-110INS	11 Piece Insulated Tool Kit Kit contains: 7 Screwdrivers as shown plus **INP-1072, INP-2065, INP-3062** & **INP- 4065**

TK-70INS

JONARD P/N	DESCRIPTION
TK-70INS	7 Piece Insulated Screwdriver Set Screwdriver Set contains: 3 Philips, 4 Slotted as shown below

CRIMPING PLIERS

JONARD INDUSTRIES CORP.

JIC-685

Lineman Plier With Crimper & Fish Tape Puller

Designed for heavy duty use in construction and maintenance work. These pliers are high leverage for cutting bolts, nails, and many gauges of wire including high-strength wire. Cutting edges cut clean and remain sharp. Fish tape pulling feature easily pulls 1/8" or 1/4" steel fish tape without damaging the tape. Built in crimper feature works best on non-insulated connectors, lugs and terminals. Cushioned grip, comfortable handles are yellow plastic coated to approximately .007".

JIC-891 PRESSINGC

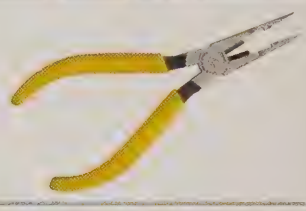
Connector-Crimping Pliers With Side Cutters

Connector-Crimping Pliers with Side Cutters designed to press UG, UR, UY, 709 series connectors, crimping "B" type connectors, and AMP tel splice connectors. A special stop behind cut out prevents damage to connectors. Utilized on combinations of plastic and pulp insulated 19, 22,24 and 26 gauge copper conductors as well as 20 gauge plastic insulated copper steel wire. Comes with side cutter and yellow plastic handle. Also known as PRESSINGC.

JIC-22148

Combo Crimper Long Nose Pliers

Five tools in one, combines crimper for UR/UY/UG, AMP tel splice connectors, 709 series connectors, crimping "B" type connectors and a long nose pliers. With a crusher, cutter, .030" stripping hole, and yellow plastic handle.



JIC-056 LONGNOSEG

Long Nose G Pliers

This plier is designed with a long nose to close 700, 701 & 702 style connectors. Knurled jaws to facilitate gripping wire, red plastic handle. Also known as LONGNOSEG.

LONG & SHORT NOSE PLIERS

JIC-842

Telecom Long Nose D Pliers

Pliers are for general use looping, bending and cutting. Grips small wires and parts and reaches into tight spaces. Jaws are knurled, serrated and have side cutting blades. Cushion gripped yellow plastic handle.

BLONGNOSE

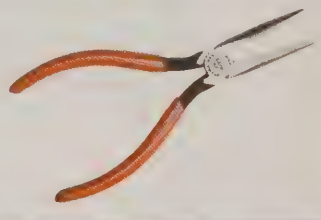
Long Nose General Use Pliers

Chain nose pliers for general use. Inner surface of the jaws are knurled near the end to facilitate gripping wire, binding post nuts etc. Orange plastic handle.

ELONGNOSE

Long Nose Gripping Pressing Pliers

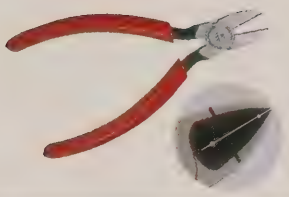
Long nose pliers for gripping and pressing. Inner surface of the jaws are knurled near the end to facilitate gripping wire, binding post nuts etc. Aluminum oxide insulation coating on the outside nose surface. The inside gripping jaws are provided with mated grooves near the joint for use in pressing .032/.035" brass sleeves. One stripping hole .054" diameter Orange plastic handle.



BSHORTNOSE

Shortnose Pliers

Intended for use in skinning 22-24 AWG wire and crushing insulation in nose slot. The front portion of the jaws is narrowed, and a portion of the inner face of one jaw is relieved to skin insulation from wire. The inner surface of the jaws are serrated to facilitate gripping wire. Orange plastic handle.



DIAGONAL PLIERS

JONARD INDUSTRIES CORP.

JIC-7858

Telecom Diagonal Cutter Pliers

Tapered nose diagonal cutting pliers with standard-bevel knives with .030" and .045" skinning holes, with crusher used for multi-purpose wire work, with two V-shaped stripping notches. The comfortable handles are red plastic. Also known as DIAGD6.

DIABVNOTCH

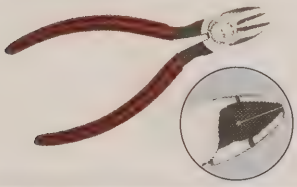
Diagonal Pliers - Crushing & Slitting

Used for cutting soft copper conductors. Has a "V" shaped notch between jaws, near the joint, for crushing the flameproof type of insulation on distributing frame wire. Also provides a "W" shaped notch on the plier jaws for slitting textile insulation. Red plastic handle.

DIAGB5

Diagonal General Use Pliers

These are plain diagonal pliers for general use, for cutting soft copper conductors. Red plastic handle.



JIC-685

Diagonal Pliers - Skinning & Stripping

Tapered nose diagonal cutting pliers with standard-bevel knives with one .045" skinning hole, crusher used for multipurpose wire work, and two V shaped stripping notches. Red plastic handle.

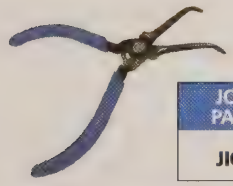
CURVED NOSE & PUMP PLIERS

JIC-3026

Curved Long Nose Plier

Nose is bent 70° for maximum visibility. Used in confined areas. Design includes knurled jaws for sure wrapping and looping. Comfortable ergonomic yellow plastic handles.

JONARD PART NO.	LENGTH	JAW LENGTH	JAW WIDTH	JAW THICKNESS
JIC-3026	6 7/8"	2"	11/16"	3/8"



JIC-3385

Curved Needle Nose Plier

JONARD PART NO.	LENGTH	JAW LENGTH	JAW WIDTH	JAW THICKNESS
JIC-3385	5 1/2"	1 1/2"	1/2"	1/4"

Nose is bent 60° for maximum visibility. Used in confined areas for bending and forming fine wire. Inside jaws and jaw edges are polished to prevent nicking the wire. Plier has a spring loaded ergonomic design. With a dark blue plastic handle.

Pump Pliers

Manufactured with a secure tongue and groove design for a non-slip grip (even under heavy pressure). The jaws provide a wide range of openings with a smooth, positive interlock between halves. Handles are plastic coated, but are not insulated and do not protect against electric shock.

JONARD PART NO.	LENGTH	MAX. JAW OPENING	NUMBER POSITIONS
JIC-5026	6"	1"	4
JIC-20210	10"	1 3/4"	6
JIC-50212	12"	2 1/4"	7

SPECIALITY PLIERS

JONARD INDUSTRIES CORP.

JIC-453

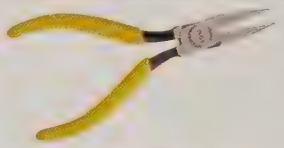
Flush Cut Pliers

A close cutting plier used to trim conductors from the 710 connector modules without leaving exposed conductors. Ideal for close trimming of gates and sprue on injection molded plastic parts. Jaw design aids in use in confined areas. Turquoise color handle. Plier made from chrome vanadium steel.

PLS-5

Heat Coil Pliers

Designed for installing and extracting heat coils, fuses from line amplifiers and other cylindrical shaped components. The thin nosed jaw allows easy access to tight restricted areas. Yellow plastic handle.



BCOMB

Slip Joint Side Cut Pliers

For heavy-duty use. Polished head, red plastic handles and flush bolt. Machined gripping teeth and 3/8" hardened wire cutter.

JIC-750

3/ 4" Coax Cable Cutter

Also known as a Banana Cutter, this cutter is designed to cut 3/ 4" coaxial cable. Tool cuts cleanly without compressed or frayed ends. Functions like a tube cutter – eliminates cable distortion during cable prep. NOT designed to cut steel cable. Yellow plastic handles.

HEAVY DUTY PLIERS

JIC-2488

High Leverage Diagonal Cutter Angled Head

Crafted with a 13o angled head for heavy-duty wire cutting in confined spaces, and made of specially forged alloy steel for strength and cutting ability. Red plastic handle.

JIC-2288

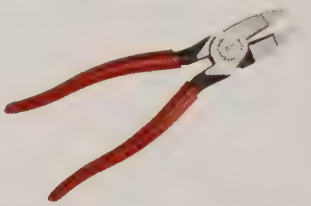
High Leverage Diagonal Cutter

Crafted for heavy-duty wire cutting and made of specially forged alloy steel designed for strength and cutting ability. Red plastic handle.

JIC-683 SIDECUTB9

Lineman's B Side Cut Pliers

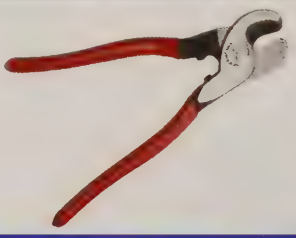
Designed for heavy duty use in construction and maintenance work. These pliers are high leverage for cutting bolts, nails, and many gauges of wire including high-strength wire. Cutting edges cut clean and remain sharp. The cushioned grip, comfortable handles are red plastic to approximately .007". Also known as SIDECUTB9.



JIC-63050

High Leverage Cable Cutters

High leverage design for superior cutting ability. Designed with a shear-type jaw for cutting aluminum and soft copper. Not for use on steel or ACSR type cables. Cuts up to 100-pair cables. Red plastic handle.



DYMO

RHINO 4200

All-Purpose Labeling Tool with QWERTY Keyboard

Get labeling jobs done fast – and done right. The new DYMO Rhino™ 4200 gets labeling jobs done fast – and done right. Easily navigate the familiar QWERTY keyboard. Use one-touch "Hot Key" shortcuts to quickly create and format wire/cable wraps, flags, Code 39 and Code 128 barcodes, fixed-length labels, breaker labels and more. Print labels up to 3/4" wide in flexible nylon, permanent polyester and durable vinyl materials – PLUS print directly on heat-shrink tubes. Save even more time with great new features – like the 'Favorites' key which provides single-key access to commonly used labels, symbols and terms; and the 'Custom' key which eliminates repeated steps by saving customized settings.

RHINO 5200

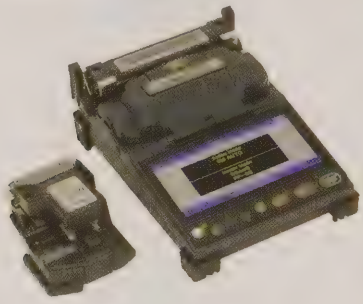
Leave any jobsite looking better than you found it.

Rugged, versatile and packed with time-saving features, the DYMO Rhino™ 5200 meets all ANSI and TIA/EIA-606-A labeling standards. Time is money, and exclusive one-touch "Hot Keys" save you both on every job. Just press one "Hot Key" to automatically size, space and format text for perfect patch panel labels – then press another to print matching cable flags or face plate tabs, without retyping! It's just as easy to print module and fixed-length labels, horizontal and vertical wire wraps, terminal and 110 blocks and much more. Print Code 39 and Code 128 barcodes. Access 100+ industry symbols, fractions and punctuation marks with a few quick keystrokes. Add the optional quick-charging lithium-ion battery for uninterrupted productivity.

IND LABEL APPLICATIONS	LABEL COLOR	1 6		" m	3/4" 19mm
VINYL - UL Recognized Component to UL969 - RoHS compliant Length 18' | 5.5m	BLACK ON WHITE	–	18443	18444	18445
	BLACK ON YELLOW	–	–	18432	18433
	BLACK ON ORANGE	–	–	18435	18436
	BLACK ON GREY	–	–	1805413	1805419
	WHITE ON RED	–	–	1805416	1805422
	WHITE ON BLACK	–	1805437	1805435	1805436
	WHITE ON GREEN	–	–	1805414	1805420
	WHITE ON BLUE	–	–	1805243	1805417
	WHITE ON PURPLE	–	–	1805415	1805421
	WHITE ON BROWN	–	–	1805412	1805418
PERMANENT POLYESTER - UL Recognized Component to UL969 - RoHS compliant Length 18' | 5.5m	BLACK ON WHITE	1805442	18482	18483	18484
	BLACK ON CLEAR	1805440	18508DMO	622289	622290
	BLACK ON METALLIC	1805441	18485	18486	18487
HEAT SHRINK TUBE - UL Recognized Component to UL224 - Meets MIL-STD-202G, MIL-M-81531 & SAE-DTL 23053/5 (Class 1 & 3) - RoHS compliant Length 5' | 1.5m	BLACK ON WHITE	18051	18053	18055	18057
	BLACK ON YELLOW	18052	18054	18056	18058
FLEXIBLE NYLON - UL Recognized Component to UL969 - RoHS compliant Length 11.5' | 3.5m	BLACK ON WHITE	–	–	18488	18489
	BLACK ON YELLOW	–	–	18490	18491
NON-ADHESIVE TAG - RoHS compliant Length 18' | 5.5m	BLACK ON WHITE	18111	–	18113	–

Fujikura 12S Fusion Splicer

Fujikura 12S Fusion Splicer
Includes: Fujikura 12S Fusion Splicer, ADC-19 AC Adapter, BTR-10 Battery Pack (installed), FH-60-250 Fiber Holders (pair), ACC-09 Power Cord, ELCT2-12 Spare Electrodes (pair), Operation Manual on CD, Quick Reference Guide, AP-01 Alcohol Container, SD01 Screwdriver and CC-29 Transit Case



- World's smallest splicer at 4.76"W x 6.38"D x 2.24"H
- Fully ruggedized for shock, moisture and dust resistance
- Transit case converts to easy to use workstation
- Dual camera, fixed v-groove alignment technology
- Extended life electrodes
- Long life battery (100 splices/shrinks per charge)

Fujikura 19S Fusion Splicer

19S Fusion Splicer (machine only)
Includes: ADC-18 AC Adapter, ACC-14 AC Cord, ELCT2-20A Spare Electrodes (pair), S70A Sheath Clamp, USB Cable, Alcohol Pot, Screw Driver, Splicer Carrying Strap, Quick Reference Guide, Video Instruction Manual and CC30 Transit Case with Carrying Strap

- Automated and programmable wind protector
- Fully ruggedized for shock, dust and moisture
- Li-ion battery with 180 splice/heat cycles per charge
- 5 mm cleave length for splice on connector or small package needs
- Sheath clamp or fiber holder operation
- On-board training and support videos
- Internet software upgrades
- Multi-function transit case with integrated workstation

Fujikura 70S Fusion Splicer

70S Fusion Splicer (machine only)
Includes: ADC-18 AC Adapter, ACC-14 AC Cord, ELCT2-20A Spare Electrodes (pair), S70A Sheath Clamp, USB Cable, Alcohol Pot, Screw Driver, Splicer Carrying Strap, Quick Reference Guide, Video Instruction Manual and CC30 Transit Case with Carrying Strap

- Automated and programmable wind protector
- 14-second automated tube heater
- Fully ruggedized for shock, dust and moisture
- Li-Ion battery with 200 splices/shrinks per charge
- 5 mm cleave length for splice on connector or small package needs
- Sheath clamp or fiber holder operation
- On-board training and support videos
- Internet software upgrades
- Multi-function transit case with integrated workstation

Fujikura 70R Fusion Splicer

70R Fusion Splicer (machine only)
Includes: ADC-18 AC Adapter, ACC-14 AC Cord, ELCT2-20A Spare Electrodes (pair), FH-50-12 Fiber Holder, USB Cable, Alcohol Dispenser, Screw Driver, Sleeve Loader, Splicer Carrying Strap, Quick Reference Guide, Video Instruction Manual and CC30 Transit Case with Carrying Strap

- Automated and programmable wind protector
- 40-second automated tube heater
- Fully ruggedized for shock, dust and moisture
- Li-ion battery with 110 splices/shrinks per charge
- On-board training and support videos
- Internet software upgrades
- Multi-function transit case with integrated workstation

86 1/2SF

MILLER®

86 1/2SF Electronic/Kevlar Shears

86 1/2SF is a high leverage tool for cutting, trimming and slicing through fiber and other tough industrial and electronics materials. Use 86 1/2SF to trim DuPont Kevlar® Aramid fibers. Hot-forged, high carbon steel for long life, quick action spring response, and two sharp points. 86 1/2SF has one blade serrated and red cushioned grips.

CC125 Fiber Optic Cleaver

CC125

Produces extremely precise cleave lengths from 6.5 mm to 20 mm. Produces endface angles of less than 2 degrees 100% of the time. Ideal for achieving the precise cleaves required by the new generation of "no polish" fiber connectors - in either simplex or duplex cables. Tremendous repeatability - once the cleave length is set and locked, every cleave will be the same precise length. Steel handles with plastic grips. Anodized aluminum cleaving blocks/fixturing. Carbide cleaving blade, polyurethane rubber cleaving and gripping pads. Compatible fibers: glass fibers with 125-micron nominal cladding diameters; accommodates fibers in coated as well as cable form.

FO 103-S

FO 103-S Fiber Optic Stripper Line

- For stripping 250 micron buffer coating from 125 micron optical fiber
- Precision diameter hole & V-opening blade allow for accurate buffer coating removal to prevent scratching or nicking of optical fiber
- Available in a variety of stripping fiber diameters

FO 103-D-J

FO 103-D-J, FO 103-D-250 Dual-Hole Fiber Optic Strippers

- New dual hole models offer the same quality of our standard FO 103-S fiber tool coupled with a second hole
- **FO 103-D-J:** Second hole for stripping 2-3 mm fiber jackets and standard 125 micron fiber
- **FO 103-D-250:** Second hole for stripping 900 micron tight buffer down to 250 micron buffer coating

Toner

FCC-2.5

One Click Mating Sleeve / Bulkhead Cleaner for ST, SC, and FC Type Connectors

- Standard 2.5 mm Ferrules and Connectors
- 500 to 700 Cleanings
- Easy Push and Click Operation
- Extendable Tip for Recessed Connections
- Cleaner Rotates 180° for complete surface cleaning

FCC-1.2

One Click Mating Sleeve / Bulkhead Cleaner for LC Type Connectors

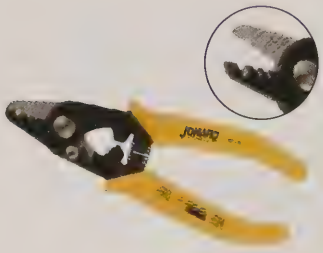
- Standard 1.25 mm Ferrules and Connectors
- 500 to 700 Cleanings
- Easy Push and Click Operation
- Extendable Tip for Recessed Connections
- Cleaner Rotates 180° for complete surface cleaning

VFL650-10

Visual Fault Locator Used to Identify Fibers & Find Broken Fiber or Bad Connectors

- 650 nm Visible Laser
- Single or Multimode
- 10 mW Output Power
- Test Up To 10 km of Fiber
- 2.5 mm Universal Connector
- 3 Test Modes, Constant On, Pulse at 2.3 Hz, Pulse at 9 Hz
- LC Adapter for VFL available (VFL650-LC)

JONARD INDUSTRIES CORP.



JIC-375

FIBER OPTIC STRIPPER THREE HOLE

Three hole Fiber Optic Stripper performs all common fiber stripping functions. Strips the 1.6-3 mm fiber jacket down to the 900 micron buffer coating. The second hole strips the 600-900 micron buffer coating down to the 250 micron coating and the third hole is used to strip the 250 micron cable down to the 125 micron glass fiber. JIC-375 is 6" long.

JIC-175

ERGONOMIC FIBER OPTIC STRIPPER

Used for stripping the 250 micron coating from the 125 micron optical fiber. Preset at the factory so no adjustments are necessary. Yellow plastic formed handles, tool is 6" long.

JIC-125

FIBER OPTIC STRIPPER

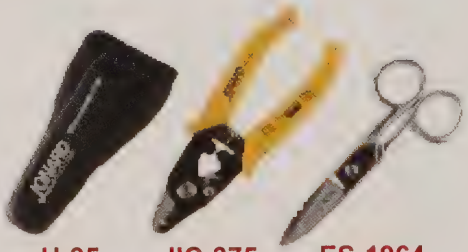
For stripping 250 micron buffer coating from 125 micron optical fiber. Preset at the factory so no adjustments are necessary. Yellow plastic dipped handles 5 3/16" long

TK-375

THREE PIECE FIBER OPTIC KIT

Kit includes the JIC-375 Fiber Optic Stripper three hole, ES-1964 Electrician's Scissor, and convenient molded plastic pouch made of durable PVC material and will accommodate belts up to 2" in width.

JONARD P/N	DESCRIPTION
TK-375	3 Piece Fiber Optic Kit
H-35	Plastic Molded Pouch
JIC-375	Fiber Optic Stripper- 3 Hole
ES-1964	Electrician Scissor

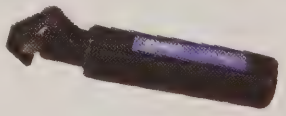


H-35 JIC-375 ES-1964

FOD-2000

FIBER OPTIC DROP CABLE SLITTER

The FOD-2000 Fiber Optic Drop Cable Slitter is a patent pending tool that simplifies the slitting of drop cable jackets at the end of the cable or mid-span. For Flat Cables.
The FOD-2000 puts a slit on both sides of the jacket allowing easy access to the fiber or strength member. The ease of use makes this tool truly unique. To use just position the tool around the cable, pull and slit. A simple solution for a vital task. The FOD-2000 comes completely assembled with two blades, which can be reversed once the blades are worn.



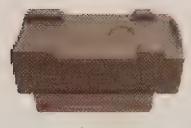
CST-1900

ROUND CABLE STRIPPER

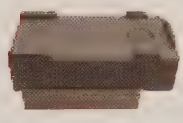
The CST-1900 is designed for fast and precise jacket removal of PVC, rubber, PE and other jacket materials, and works well on round cables with diameters ranging from 3/16" to 1-1/8" (4.5-29 mm). This is a Triple Action Tool, cutting longitudinally for end stripping, spiral for end stripping and mid-span cuts, and circular for jacket removal. A simple versatile easy to use tool your customers will love. The Replaceable Cutting Blade is spring loaded, adjustable for various cable diameters, provides a 90° blade rotation and is designed for long life.

JONARD INDUSTRIES CORP.

TSAB-40



JIC-125



JIC-125

JIC-125

For Fitel, Fujikura and Ericsson fiber holders use the corresponding platforms, for LDF and all others without fiber holders use the Jonard Universal Clamp.

JONARD P/N	DESCRIPTION
TSPE-125	Ericsson Style Platform
TSPF-125	Fitel/Fujikura Style Platform
TSUC-40	Universal Clamp

THERMAL FIBER OPTIC STRIPPER FIXED BLADE

Thermo-mechanically remove coatings from optical fibers. High strength thermal stripper supports standard 125µm optical fibers, including 250 µm, 400 µm, and 900 µm coated fibers. The heater is adjustable to 200°C and facilitates stripping difficult and baked-on coatings. Adjustable temperature and time settings to adapt to a variety of different coatings. Compact design, weighs less than a pound. Includes A/C power supply, cord and cleaning brush. Platforms supplied separately.

THERMAL FIBER OPTIC STRIPPER ADJUSTABLE BLADE

Thermo-mechanically remove coatings from optical fibers. High strength thermal stripper with adjustable stripping blade, which supports cladding diameters 40µm to 1000 µm acrylate coated fibers with buffer diameters up to 1200 µm. The heater is adjustable to 200°C and facilitates stripping difficult and baked-on coatings. Adjustable temperature and time settings to adapt to a variety of different coatings. Compact design, weighs less than a pound. Includes A/C power supply, cord and cleaning brush. Platforms supplied separately.

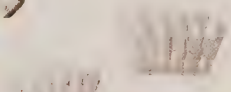
JONARD P/N	DESCRIPTION
TSFB-125	Thermal Stripper Fixed Blade
TSAB-40	Thermal Stripper Adjustable Blade

JIC-125

FIBER JACKET STRIPPER

The Wire Stripper and Cutter is designed to strip and cut the most commonly used stranded and solid wire gauges 10 to 22 AWG and 1.6-3 mm fiber jackets.

JIC-4366



RB-2878

RB-2060

OPTICAL FIBER CABLE SHEATH STRIPPER & RING TOOL

Used for stripping and butting tight buffer optical fiber cables. Use one blade to butt PVC sheathing and use the second blade to strip the sheathing. Adjustable for .018" or .031" thick plastic, rubber or fabric insulation. Also known as CT2860.

JONARD P/N	DESCRIPTION
JIC-4366	Optical Fiber Sheath Stripper & Ring Tool
RB-2060/6	Pkg. of 6 Replacement Blades for ring feature of tool
RB-2878/6	Pkg. 6 replacement blades for stripper feature of tool

JONARD INDUSTRIES CORP.

JIC-186

ERGONOMIC FIBER OPTIC KEVLAR® CUTTER

High carbon stainless steel blades designed to cut Kevlar®, cabling insulation, tape, cable ties and other material.
Ergonomic handles for user comfort and durability. Adjustable joint screw under protective cap, serrated blades grip material, sharp and durable 6" long.

ES-1964ERG

ERGONOMIC ELECTRICIAN SCISSORS

These Ergonomic Electrician scissors are designed for heavy duty use. Made of high carbon steel with a special hardening process for greater durability and nickel plated for that professional look. Notched to strip 19 & 23 AWG wire and one blade is serrated. A scraper and file are on the back of the blade.

ES-1964

ELECTRICIAN SCISSORS

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KN-7

CABLE SPLICING KNIFE

The tough cutlery steel blade is extremely sharp and cuts easily through many types of insulation. It holds its edge with repeated use and features a non-slip easy grip handle for better control and reduced hand fatigue. Blade length is 1 3/4" and overall length is 6 1/4"

KSS-1

KNIFE & SCISSOR SHARPENER

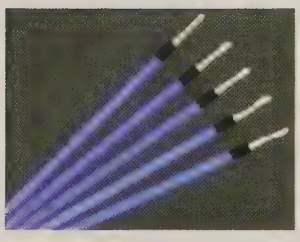
Sharpen knives and scissors with one convenient sharpener. Made of high-grade tungsten-carbide steel and diamond polished. Will restore the edge on either scissors or knives with 3-4 simple strokes. Safety finger guard, lightweight compact design makes this the ideal tool for all your sharpening needs.

SPLICER'S KIT TK-400

This compact kit contains an ergonomic splicers knife, scissor and leather pouch. The knife features a 1 3/4" tough, cutlery-steel blade and a non-slip handle. The scissors are made of high carbon steel with scraper and file on one side and 2 stripping notches on the other. Both items fit securely in the leather pouch which can be mounted on belts up to 2" wide.

JONARD P/N	DESCRIPTION
TK-400	3 Piece Splicer's Kit
H-40	Leather Pouch
KN-7	Ergonomic Cable Splicing Knife
ES-1964	Electrician Scissor

toner



CLETOP

Fiber Cleaning Products

Part Number	Description	Units
	CLETOP-S CASSETTE CLEANER	
14110501	Cletop-S Type A (2.5mm - SC, FC, ST, E2000) Blue Tape	Each
14110601	Cletop-S Type B (1.25mm - LC, MU) Blue Tape	Each
14110611	Cletop-S Type B(1.25mm - LC, MU) White Tape	Each
	CLETOP-S REPLACEMENT CARTRIDGES	
14110700	Cletop-S Replacement Cartridge - Blue Tape	6/Box
14110710	Cletop-S Replacement Cartridge - White Tape	6/Box
	CLETOP CASSETTE CLEANER	
14100500	Cletop Type A (2.5mm - SC, FC, ST, E2000) Blue Tape	Each
14100600	Cletop Type B (1.25mm - LC, MU) Blue Tape	Each
14100610	Cletop Type B (1.25mm - LC, MU) White Tape	Each
14100101	Cletop Type MT-RJ White Tape	Each
14100201	Cletop Type MPO-MTP White Tape	Each
	CLETOP REPLACEMENT REELS	
14100700	Cletop Replacement Reel - Blue Tape	6/Box
14100710	Cletop Replacement Reel- White Tape	6/Box
	CLETOP STICK CLEANERS	
14100400	Cletop Sticks - 2.5mm diameter (200 sticks per box)	1 Box
14100401	Cletop Sticks - 1.25mm diameter (200 sticks per box)	1 Box

MicroCare®

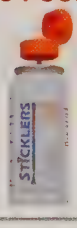
Fiber Optic Connector Cleaning Sticks

These fiber optic cleaning products out-perform the others because these nibs are based on a unique, thermally-sintered polymer which is molded, not fabric wound around a handle of foam glued to a stick. This enables each FiberCare cleaning stick to wick up more liquid contamination or solvent and trap more particulate than fabric-style swabs (and with none of the drawbacks of foam-type swabs). These sticks conform to connector end-face surfaces including angled connectors. Packaged in convenient, color-coded travel kits, these sticks save time and money. U.S. patent pending.

"Clamshell" Pak Contents	S25	S16	S12	P25	XMT
Typical Connectors to be Cleaned	2.5 mm connectors, SC, ST, FC, ASC, AFC, etc	2.0 mm & 1.6 mm connectors, MILC 28876, MILT 29504/14/15, D4, MT-RJ	1.2 mm connectors, LC, MU	for all exposed ferrules and jumpers	MPO, MTP (with or without pins), Biconic
MCC-S25	5 bags	0	0	0	0
MCC-S16	0	5 bags	0	0	0
MCC-S12	0	0	5 bags	0	0
MCC-P25	0	0	0	5 bags	0
MCC-XMT	0	0	0	0	5 bags
MCC-VM	1 bag	1 bag	1 bag	1 bag	1 bag
MCC-VS	2 bags	0	1 bag	2 bags	0

MicroCare

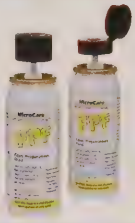
MCC-POC03M



Precision Optical Cleaner

The MicroCare MCC-POC03M is a precision optical cleaner is used to clean critical optical devices, including soft plastic components. Packaged with Triton™ 3-way dispensing valve allowing user to dampen a cleaning swab, wet a wipe, or spray the solvent all from the same package. It is "TravelSAFE™" - meaning the pump spray is "nonhazardous, nonregulated" so it can be shipped by air without extra paperwork or hazmat fees.

MCC-FPF03M



Fiber Preparation Fluid

The Fiber Prep Fluid from MicroCare leads the industry for cleaning fiber before splicing. Unlike competitive solvents, this optical-grade fluid has been engineered specifically for cleaning glass fiber prior to fusion splicing or termination. Nonflammable and plastic-safe, it also is ideal for cleaning residues from connector end-face after polishing. The cleaner is a safe, fast-drying, ozone-safe replacement for alchohol cleaners. It easily removes the buffers, dust, oil, grime and moisture from fiber optic cable.

Fiber Connector Cleaner

MCC-FCC03M

This unique product contains a high-purity solvent engineered for cleaning precision optical components made of glass, metal, or soft plastics (including plastic optical fiber). This formula neutralizes static electricity to dissapate bonds that attract and hold particles to surfaces. It also dissolves fingerprints, light oils and surface films. Fast-drying and ozone-safe, this is an excellent nonflammable replacement for either isopropyl achohol or acetone. It is safe on most materials glass, ceramic, metal, plastic, electronics and cured epoxy surfaces. Test before use on lens coatings. Easy to use and ultra-pure.

MCC-AIR107

Big Blast Canned Air

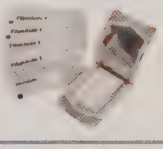
Big•Blast™ precision duster is ultra-pure and double-filtered for the very best cleaning results. It also uses a special valve which doubles the "pushing power" when compared to old syle dusters. This non abrasive cleaner quickly blasts dust, dirt and other dry contaminents out of audio equipment, electronics, connectors, medical devices, keyboards, mechanical assemblies, lab instruments and hard to clean surfaces. Use Big Blast to remove lint, fibers, hair, dust, and grit as well as to blow dry water solvents.

Fiber Wipes

MCC-WFW

FiberCare™ FiberWipes™ are specifically designed for use in the fiber optic industry. These lint-free wipes are stronger, but softer and more absorbent than traditional cellulose wipes. Each mini-tub contains 90 perforated lint-free wipes. The wipes are packaged in a compact pull-out tub with MicroCare's unique "Drop-n-Stop™" packaging - the octagonal top keeps the package from rolling if dropped. Each wipe is 4" x 2", which is the perfect size for cleaning fibers or connector end-faces.

MCC-FA1



FiberAide Lint Free Fiber Connector Cleaner

These wipes are specifically designed for single-use applications and are ideal for cleaning connector end-faces and bare fiber. Material resists tearing and linting. 2.76" x 1.57" (7 cm x 4 cm) size cleans up to six fiber optic endfaces. Individually packaged. 50/bag

FS-9500 Fiber Safe Safety Kit

- Fiber-Safe™ safety kit is specifically for working safely with glass fiber
- Complete kit includes a Fiber-Safe polishing/work mat, fiber scraps trash can, splinter removal tweezer, ten bifurcated cleaning swipes, each with a self-contained alcohol dispensing tube, and safety glasses

FODC-1

Safety container for disposing of cleaved fiber ends. Snap lid has holes for depositing the fiber slivers. Any work place where fiber is being cleaved should have a container to prevent dangerous glass splinters.

80691 Fiber Optic Kit

- Ripley's fiber optic termination kit offers a high quality set of tools for the professional inst aller
- Standard kit items sold with a rugged, positive-closure, hard case

Standard kit includes:

- FO 103-S – Fiber Stripper
- Model 100 – Buffer Tube Scoring Tool
- FOKC – Kevlar Cutters
- FOPD-25 – Universal polishing disc for 2.5 mm ST, SC and FC connectors
- CS-30-DE – Double End Carbide Fiber Optic Scribe
- CCT-2001 - Fiber Continuity Tester
- FS700 – Fiber Polishing Pad
- FIM 150-200 – 150x to 200x Inspection Scope
- MT-1 – "Magna-Tweez" tweezers
- RMC-6 – 6 inch (152mm) precision scale
- Fiber Optic Crimp Tool
- Permanent marker pen
- Fiber Waste container

Safety Glasses Recommended

FSTK Fusion Splice Tool Kit

The FSTK provides the technician responsible for fusion splicing all the tools and materials needed to properly and safely produce fusion splices with optical fiber cables.

Standard kit includes:

- Canned Air
- PVC Electrical Tape
- 4 oz Alcohol Bottle
- Fiber Stripper
- (50) Fusion Splice Sleeves
- 4 Tip Screwdriver
- Rugged Carrying Case
- Buffer Tube Stripper
- Round Cable Slitter
- 6" Diagonal Cutters
- Wire Marker Dispenser
- Universal Continuity Tester
- Kim Wipes
- Utility Knife
- Tweezers
- Needle Nose Pliers
- Connector Cleaner
- Jacket Stripper
- Safety Glasses
- (5) D-Gel Wipes
- Safety Work Mat
- (12) Moistened Wipes
- Matching Gel
- Fiber Disposal Container
- Tape Measure 6'
- 1/2" Nut Driver
- Tie Labels
- Piano Wire
- Kevlar Scissors
- Black Marker
- Cable Cutters
- Jacket Slitter
- Flashlight
- (50) Foam Swabs
- Scale (6" Ruler)
- 1000mm Furcation Tube 3mm
- 1000mm Furcation Tube 900 µm

FOTCK Fiber Optic Test & Cleaning Kit

The FOTCK has been assembled to provide the technician responsible for the inst allation of fiber optic transmitters and receivers everything he needs.

Standard kit includes:

- (1) ViewTeq VLS-1310 Light Source
- (1) ViewTeq VPM-26 Power Meter
- (1) Wilcom F6230A Visible Light Source
- (1) Noyes OFS-300-200C Microscope
- (2) FC/UPC to SC/APC 1 meter singlemode fiber jumpers
- (2) SC/APC Mating Sleeves
- (1) Cletop-S Connector Cleaner
- (1) Microcare DST Canned Air
- (1) Microcare FCC-II Fiber Connector Cleaner Fluid
- (50) Microcare S25 Fiber Cleaning Swabs
- (50) Microcare MCC-FA1 Single Use Wipes
- (90) Microcare WFW "Lint Free" Wipes
- (1) Rugged Custom Carrying Case

Index

Index....197,198
Field Engineering Services....1
Headends....3, 4
311....27
2804....144
2806....144
2807....148
5341....100
5352....100
5363....100
13961....65
SEP48....17
80691....195
150517....65
551165....162
065-7861....56
065-7940C-WS....56
1000H Series....64
1000HS Series....64
10MLP / 10MNF / 10 MHP Tier Traps....141
12458MD-C6C....57
12S/19S....188
2110-SSPTB....162
2116-SSPTB....162
2240V / 2241V....110
232-AMP+....94
232-ATSC-4....94
24458-C6A....57
24458MD-C6C....57
24SPLICEBOX....163
2801 PRO....148
2802 PRO....148
3000 Series....64
3000C Series....64
3112/4112 LightLinks....151
3160 Series....49
3303 Series....49
3322 Series....49
48458-C6A....57
48458MD-C6C....57
4930/3278 Series....49
4SATPL-T....73
4SPI-20....73
5SATPL....73
5SEQ9....73
624B....50
625A....50
627A....50
631A....46
70S/70R....188
780C....171
7893D....65
7964 Series....48
86 1/2SF....189
8MLP/ 8MNF / 8MHP Tier Traps....141
A140....93
A860....42
ACA Series....103
ACA-35-1000....103
ACC Series Hardline Adapter....121
ACC Series Hardline Connectors....120
ACT1000....20
AD-1....43
ADA-8402-A....91
AFC-HDMI2....159
AI TURBO S2....175
AIO-70000....39
AM Series....40
AM Style....166
AM1U....164
AM2U....164
AM3U....164
AM4U....164
AMCM-860....44
AND-240OF....66
AP-60-860A....43
AQD....15
AQM....11
AQP....16
AQT....19
AQT8-IP....19
AQT8-QAMIP....19
ARP Series....83
ASI-310....91
ASI-4....37
ASII....8
ATSC+SDI....94
Audio/Video Cables....131
AVN420....52
AVN441HD....52
AVN443....52
BAVM-860-SAW....40
BCOMB....186
BETACRYPT....23
BIDA Series....104
BLONGNOSE....184
BNP2XR....17
BNP3XR....17
Brickwall Filter....48
BSHORTNOSE....184
BTPRO-1000....172
BTPRO-7000S....172
BTY-10-HB....61
BTY-10-U....61
BTY-5-LB....61
BTY-LP-BB....61
BY-UHF-BB....61
C1G....32
C2200....32
C3300....32
C600/C800/C900 Series....31
CA-30RK1000....105
CA-50/550....105
CAS....23
CAT6 Patch Cords....59
CAT6S-G....60
CAT-AS....178
CC Series....180
CC Series Cable Clips....131
CC/CCS....181
CC125....189
CCT-596....176
CDA Series....105
CEF-750....49
CEF-860....49
CFTV Heat Shrink Tubing....132
CLETOP....193
CM-8....183
CMA-BB....63
CMA-BB....63
CMA-UC....63
CMB-250-P....57
CMTS....31
ConverG1....29
CPE....153
CR211CX....177
CR596-11....178
CR596B/CR596Q/CR596QL....178
CR611Q/CR611QL/CR611Q2/CR611U....178
CST/QCST....179
CST-1900....190
CST-59611....176
CST-59611....176
CT2-AS....181
CT-375....178
CTB Self Fusing Tape....132
CX-1DVI-A-D....54
CX-1HDMI-IR....54
CX-1HDMI-LT....54
CynerG2....29
D860....43
D9854....26
D9858....26
D9865....26
DA & DAR Series....105
DAV860....15
DCC-4200....10
DCM475....99
DCS....81
DCS....181
DCS-10....81
DCST-4ATX....94
DCW775....99
DCWRG / DCRG Series....134
DDC864....16
DGS-1100-xx....55
DH42FAE....67
DH45GAE....67
DH50GAE....67
DHDP Series....16
DIABVNOTCH....185
DIAGB5....185
DMB....28
DMG3000/3100....22
DMM806....45
DMP900....18
DNP100....22
DOXcontrol....33
DPI1200....38
DRO 4000 Series....65
DRO 8000 Series....65
DSE2 Plus....30
DSE24....30
DSP806....16
DSS-824....91
DST1....50
DSU Series....134
DSU Series....138
DSV Series....137
DTA3050....21
DTS860....15
DTU-235....173
DTU-236A....173
DTV66E....68
DUC864....13
DV4 HD....30
DV5 H5....30
DV5 H5....30
edje4111....28
EH24....8
EH244....8
EH244IP....8
ELONGNOSE....184
EMN / EMD Traps....141
EN20....4
EN30....4
EN80/81....4
EN91....4
EN91P....4
EOS-6000....159
EQAM-420A....13
EQAM-420B....13
ERK Series....74, 75
ERK-10FT-FC....81
ERK4QFT-FC....81
ERK-DT....81
ES-1964....190
ES-1964....192
ES-1964ERG....192
ESB Series....83
EVE-HD & EVD-HD....53
ezDROP....168
EZ-F Connectors....122
ezPREP....169, 170
ezSPAN....167
F & BNC Adapter Kit....128
F Adapters & Accessories....124
F Connectors & Adapters....123
F16508....162
F860....42
FAM / SFAM / FAM Kit....129
Fastrap Series....48
FCC-1.2....189
FCC-2.5....189
FEED-4CCKU-MOTO....67
FEED-4CKU-MOTO....67
FEED-4CKU-MOTO-WB....67
FEED-SUB-*....67
Fiber Optic Attenuators....161
Fiber Optic Couplers....160
Fiber Optic Hybrid Adapters....160
Fiber Optic Mating Sleeves....160
Fiber Optic Patchcords....161
FIBT/MIBT....172
FIBT-10-1550....145
FO103-D-250....189
FO103-D-J....189
FO103-S....189
FOCN Series....149
FOD-2000....190
FODC-1....194
FOTCK....195
FR1....35
FR2....35
FRDA Series....149
FRRA Series....149
FS-9500....194
FSD-8240....91
FSG....36
FSTK....195
G2 Series Connectors....117
GBOX: GBX-F-HDMI-VGA....159
Genesis XD....38
GigaBUD / GigaBOB....58
H24....27
H30....170
H-30....190
H30D3....170
H-40....192
H45....170
H60....170
HA5....34
HD4-ENC & HD4-DEC....53
HD6010....62
HD7084P....62
HD9032....62
HD9095P....62
HDD-M4-1-RM....9
HDD-M4-1-RM....15
HDE24....8
HDE-2H/2S-QAM....5
HDE-4S-PRO....7
HDE-4S-QAM....5
HDE-8C-QAM....5
HDE-8C-QAM/IP....55
HDE-CHV-QAM....7
HDE-CSV-QAM....7
HDE-M4-1-RM....9
HDE-QAM....7
HDME-2 Series....12
HDME-4Q....12
HDME-I/P-3....22
HDME-I/P-3....51
HDMET....10
HDMI Cable....96
HDMIF-HDMIF....98
HDMI-FLEX....98
HDS94B....97
HDV201....98
HDV668....95
HDV912....97
HDV914....97
HDV944....97
HDVE100....98
HDVR45....96
HDVS001....95
HEA-37....101
HFC....149
HFS Series....70
Hi5....34
HINGED....163
HPF-54MHZ....140
HSVS002....95
HW Series....83
HX-596....176
HX-596Q....176
IBAR / ISOBAR....86
ICC-ATSC+....94
Indoor/Outdoor ONTs....154
INLINE....163
IPQT-12....14
IT-F59,6,11....181
J55-FM....61
J56-162....61
JIC-056 LONGNOSEG....184
JIC-125....190
JIC-175....190
JIC-186....191
JIC-20210....185
JIC-22148....184
JIC-2288....186
JIC-2488....186
JIC-3026....185
JIC-3385....185
JIC-375....190
JIC-4355....191
JIC-453....186
JIC-50212....185
JIC-5026....185
JIC-63050....186
JIC-683 SIDECUTB9....186
JIC-685....184
JIC-685....185
JIC-750....186

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JIC-7858....185
JIC-842....184
JIC-891 PRESSINGC....184
Jumper Cables....130
KJ458-C6A....57
KJS458MT-6AC....57
KN-7....192
KN-7....192
KSS-1....192
L3011B....177
LA-141R-T....71
LA-142R-T....71
LA-145R-T....71
LA-146R-T....71
LA-2150....70
LA281R-T....71
LA285R-T....71
LAL204A-T....72
LAL205A-T....72
LAL20A-T....72
LBP Series....84
LDP-8242....91
LED-1906HDTR....39
LED-430X3-3GSDI....39
LED-500X3-3GSDI....39
LPF-230....140
LP-OLAR....142
LP-OLAT....142
Lynx Television Network....58
M1....89
MAG254....51
MAG254....93
MCC-AIR107....194
MCC-FA1....194
MCC-FCC03M....194
MCC-FPF03M....194
MCC-P25....193
MCC-POC03M....194
MCC-S12....193
MCC-S16....193
MCC-S25....193
MCC-VM....193
MCC-VS....193
MCC-WFW....194
MCC-XMT....193
MDDA-860....19
MDDM-860....44
MEC....10
MEDALLION 6000 Series....144
Media Converter Systems....56
mediaHUB-Pro 02....5
MEQ1000....13
MICM Series....44
miniCMTS200a....31
Mini-Series Headend Cable....113
MIPS-12C....44
MIRC-12....44
MIRC-4 CUBE....44
MIRC-4D....44
MISE....44
MK-LA....81
MMC....17
MMTS20....45
MMWM-47....50
MPC-12/MPC-12C/MPC-PSF12/16....42
MPCD....43
MPCM45 SAW....42
MPCMA SAW....42
MPM860AG....45
MPP1700....52
MQM1000....11
MQM6000L....11
MRK Series....76, 77
MTSA-PRO....172
MUX-12A-QAM....21
MUX-2A-QAM....21
MUX-2D-QAM....21
MV-PVT....81
MW-10FT-FC....81
MW-4QFT-FC....81
MW-DT....81
MW-LA....81
MW-TR....81
MX-8HDMI-CATX....54
NanoNode RFOG....155
NEW-3GA....92
NPR6A....68
NVD-1-3G....9
NVE-1-3G....9
OB Series....84
OLAT/OLAR....151
OLMR....152
OLRT/OLRR....151
OPAT-14....142
openGear 3.0....90
OPT-CLTR-IC....158
OPTICAM 3GHD....159
OT-1000-HH....145
OTC-1DVI2AUSB....53
OTC-1HDMI-IR....156
OTC-1HDP....53
OT-CC-16F....158
OT-CC-16F....158
OT-CC-61U....158
OT-DCM-G....159
OT-DTCR-1....158
OT-DTCR-2....158
OTDV-1250....152
OTEA-CL....150
OTEB-CO-B....150
OTOR-300....146
OTOT-1000E....142
OTOT-EM-55X....145
OTP-1DVI2A1UKM....156
OTP-1SD....156
OTP-1SD2BA....156
OTP-2V4BA....156
OTP-3SD....156
OTP-6SD....156
OTPN-2000C....146
OTPN-3850-SA....155
OTPN-400C....146
OTPN-800C-H/L....146
OTS-1L....156
OTS-1L2....157
OTS-2....157
OTS-2L10....157
OTS-ODLS....157
OTX-1DVI-SD....156
OTX-1HDMI-IR....156
P100FAE....66
P120FAE....66
P180FAE....66
P300FAE....66
P300PLR....66
P450FAE....67
PA-20U-50....63
PA-20U-75....63
PackeTV Views....51
PAL Connectors & Adapters....125
PAL1510-T....72
PCFM....41
PCM550SAW....41
PD1000....10
PEG-NE24-IP-C....55
PFAD-900CS....43
PFAM550....41
PFAM550SUB....41
PFAM860SAW....41
PIDA Series....105
PLS-5....186
PMN-1....149
PMX41....22
PONA 2100 Series....150
PONA 3000 Series....150
PS-100....158
PS1526/PS1536....63
PS-200....157
PS-60/90-15....88
PS8/DRMM12/DRMM4....16
PS-9012....158
PS-9060....158
PSA Series....174
PSA-4200C....174
PT-1....176
PTRK Series....80
QMOD0HDMI 1.5....11
QMOD-HDSC....11
QMOD-HDSC....11
QMOD-SDI....11
QMOD-YBP2....11
QSP-8229....92
QTM....19
Quartet....37
R10CE....37
R153....46
R157A....46
R157A dual....46
R189....37
R20AD....35
R20CE....35
R20DA....36
R44E....36
R5CE....37
RB-2060....191
RB-2878....191
RCA2X-6B / RCA2X-12B....96
RCA3X-6B / RCA3X-12B....96
RCM-8120....92
RD10MD2....34
RD20DA....36
RD60....24
RD70....24
RFOG....153
RG11 Plenum Series Cable....109
RG11 Series Cable....108
RG11 T10 Series Drop Cable....112
RG6 Plenum Series Cable....107
RG6 Series Cable....106
RG6 T10 Series Drop Cable....111
RG7 T10 Series Drop Cable....112
RH10MD....36
RH10UC....34
RHINO4200/5200....187
RLN....178
RMDA Series....103
RMDA-ARP Series....103
RMM12/RMM4/PSM121....45
RR Series....82
RS Series....83
S00/S14....165
S01/S02....165
S03/S04....165
S05/S06....165
S07/S08....165
S09/S10....165
SAT BUDDY....175
SB5101....99
SCMA-UB....63
SDE24A....8
SDE24EAS....8
SDI1x4....96
SDI24A....8
SDI-MV....95
SDI-R....96
SD-PI6S-T....73
SDQ6....10
SDT....180
SDT-TXFF-250....180
signEdje....28
SL+SL3S....68
SL+SL5....68
SL+SL5S....68
SL3SLNB....68
SL5LNB....68
SLIMLINE....166
SLM1476CM....173
Smart UPS Systems....85
SMP100....18
SMP16....38
SMP180....24
SMP260E....10
SMP260T....20
SMP330M....14
SMP330T....20
SMP350....22
Snap-N-Seal Connectors....126, 127
SNSUTL....177
Soloist-HD Pro....15
SP Series Cabinets....87
SPEEDWAY....163
SRA-8601....92
SRT Series....137
SUB-CATV....140
SUPER BUDDY....175
SVT....20
SWM16-MDU....68
SXRS / SCVS Series....137
T.OX....14
T10500 Series Cable....115
T10625 Series Cable....115
T10750 Series Cable....116
T10875 Series Cable....116
T18/T25/T37/T59....182
TAMD....43
TAMM....40
TAMP6R30....72
TBLE-1035-42....102
TDA**********....101
TDA31-34-1200....101
TDA-PI....69
TDA-R-40-115 Series....101
TGT Series....134
TIBA-30-1000....102
TIBA-40-1000....102
TIN40-1000....147
TIN40R-1000....147
TK-110INS....183
TK-400....192
TK-70INS....183
TLA-20S....69
TLP-DC / TLP-PI / TLP-SP....136
TLRC....151
TMP Series....139
TMP-PI / TMP-S / TMP-C....139
TMX2400....69
Total Tap....135
Trident7....153
TRN-100....147
TRR Series....82
Trunk & Distribution Adapters....118, 119
TSAB-40....191
TSB-G Series....138
TSC Series....138
TSDM-2150....140
TSEQ-2150....140
TSFB-125....191
TSMS2150X Series....70
TST Series....136
TSV Series....138
TUM714....45
TVA-20DC....69
TVEQ-20....69
TW01/TW02....166
TW03/TW04....166
TW12....84
TWT Series Wire Ties....131
TX Flexible Feeder Cable....114
TXFF/TXFF-Q....180
UD Series....84
UMH160....24
UMH160R....24
UQFP-4D....84
UVSJ....140
VDD-100....92
VFL650-10....189
VIEWRIGHT....23
VM4....38
VMRK Series....78, 79
V-R35P....47
V-R44P....47
V-R72DP-2C....47
VS-180RXOF....66
VS-300NAV....66
VS-340NAV....66
VS-370NAV....66
VS-450TX....67
VSB-ENC-150E....14
VX-1DVI-SD....159
VX-1HDMI-IR....159
WH-14-69/24....61
WH-14-69/32....61
WH-14-69/43....61
WHD7010C-P....23
WS3G Series....138
XEQ-900 Series....134
XGHS / XGVS / XGFS Splitters....133
XPD Series....69
XTC....20
ZFMSM....40

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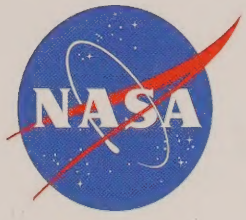

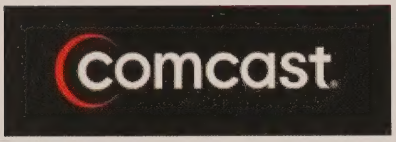

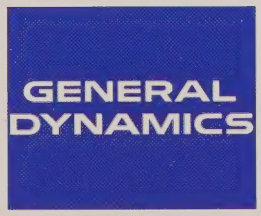

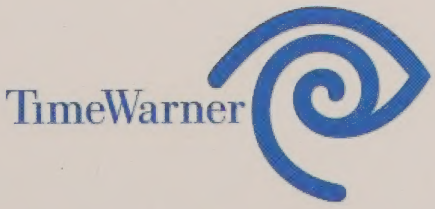

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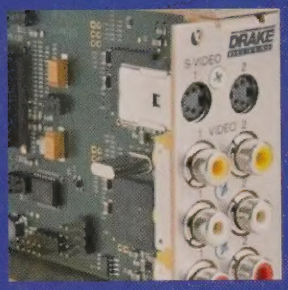

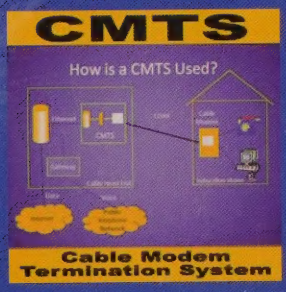

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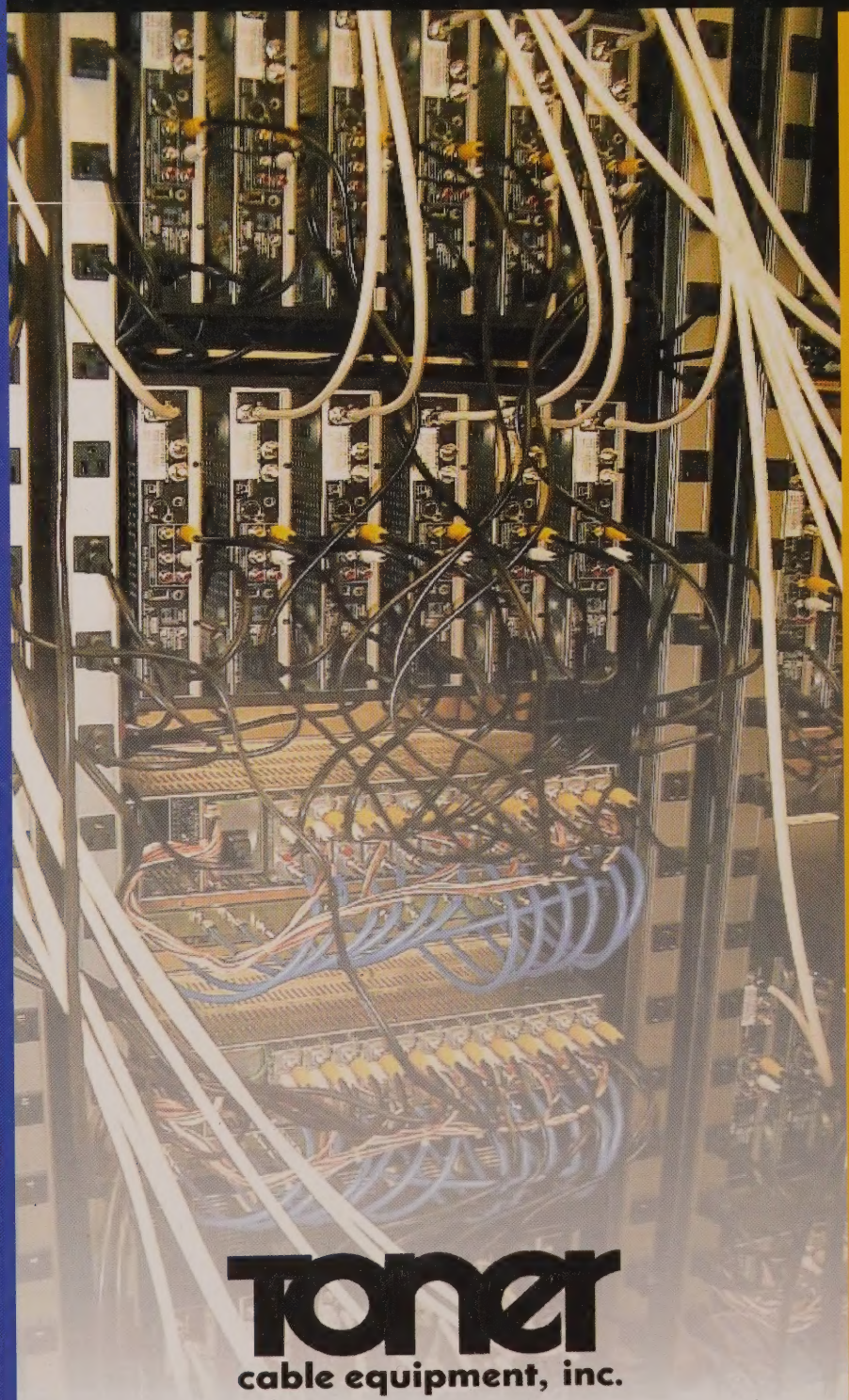

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